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ABSTRACT

In their deliberations leading to the basic conclusions and recommendations reported in "Financing Postsecondary Education in the United States." Commissioners of the National Commission on the Financing of Postsecondary Education used staff prepared supplementary materials. This report is one of a series of staff reports prepared to make these materials available to a broader audience. Five papers prepared by the National Commission's staff are collected in this volume. They explore several areas that are relevant to postsecondary education policymaking in the 1970s: 18-year-old majority, noncollegiate institutions, recent financing proposals, and alternative modes of financing (especially congressional tax-credit proposals.) Titles of the papers are: "Future Policy Issues Concerning Postsecondary Education: Demand and Supply"; "The New Adults and the Financing of Postsecondary Education: The Implications of the 18-year-old majority"; "A Summary and Analysis of the National Commission's Survey of Noncollegiate Institutions"; and "Recent Proposals for Financing Postsecondary Education: A Summary". (Author/PG)

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A Context for Policy Research in Financing Postsecondary Education

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A Staff Report
The National Commission on the Financing of Postsecondary Education

ED 098859

A Context for Policy Research in Financing Postsecondary Education

Edited by,
George B. Weathersby
and Deanna Nash

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on the Financing
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PREFACE AND ACKNOWLEDGEMENTS

In their deliberations leading to the basic conclusions and recommendations reported in Financing Postsecondary Education in the United States (Government Printing Office, December 1973), Commissioners of the National Commission on the Financing of Postsecondary Education used staff prepared supplementary materials. This report is one of a series of staff reports prepared to make available these materials to a broader audience. And, although staff reports do not necessarily reflect the views or recommendations of the Commission, it is the Commission's hope that publishing them will be an important contribution to the current dialog on the financing of postsecondary education.

Five papers prepared by the National Commission's staff are collected in this volume. They explore several areas that are relevant to postsecondary education policy making in the 1970s: 18-year-old majority, noncollegiate institutions, recent financing proposals, and alternative modes of financing (especially congressional tax credit proposals). The staff hopes that these papers will call attention to research areas that could provide policy makers with much needed information for making decisions about postsecondary education.

Many people on the staff of the National Commission contributed ideas and commented on the enclosed papers. However, major contributors were Odille Hansen, now Supervisory Program Analyst, Financial and General Management Studies Division, U.S. General Accounting Office; Sherry Manning, now at the University of Colorado; William A. Sanda, now Education Analyst, Education and Public Welfare, Congressional Research Service, Library of Congress; Ray S. Thompson, Esq., now Consultant, Arthur Young, Inc., Sacramento California; and Ted I. K. Youn, now Senior Policy Research Associate, The National Manpower Institute, Washington, D.C.

Indispensable research assistance was provided by Catherine Sullivan and Annette Weaver of the National Commission's Washington Office.

Other staff reports issued by the National Commission include:

1. A Proposal: Interim National Standard Procedures for Deriving Per-Student Costs in Postsecondary Educational Institutions, by James Farmer. Available through the Government Printing Office.
2. NCFPE National Postsecondary Education Data Base Directory, by Daryl Carlson. Available through the National Center for Educational Statistics, U.S. Office of Education.
3. A Framework for Analyzing Postsecondary Education Financing Policies, by Daryl E. Carlson, James Farmer, and George B. Weathersby. Available through the Government Printing Office.

It is the staff's hope that these reports will contribute to the understanding of the scope, magnitude, and implications of the financing of postsecondary education in the United States.

George B. Weathersby, Director of Research
Deanna Nash, Editor

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Paper 1.

FUTURE POLICY ISSUES CONCERNING POSTSECONDARY EDUCATION DEMAND AND SUPPLY

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Paper 1

FUTURE POLICY ISSUES CONCERNING POSTSECONDARY EDUCATION DEMAND AND SUPPLY

In the past, we have usually interpreted the term "postsecondary education" rather narrowly to include 18-22 year old individuals enrolled or seeking enrollment for degree credit in traditional collegiate institutions. Recently, public policy discussions have broadened--extending the focus from the 18-22 year old age group to adults of all ages, from degree credit enrollment to all participation in organized learning opportunities, and from collegiate institutions to all appropriate forms of collegiate, noncollegiate, and community organizations. Viewed with this wide-angle lense, postsecondary education includes almost 78,000 institutions[1] offering formal, organized instruction to about 24 million individuals (see Table 1). Currently about 11,000 institutions enrolling about 10 million individuals are routinely accepted by national policy makers as part of the postsecondary education enterprise. The growing interest in and concern for recurrent education and the increasing social legitimation of adult and continuing education suggest that national policy decisions will soon encompass the total horizon of postsecondary education. It is within this broader purview that we here discuss several important issues of postsecondary education financing.

I.

THE MYTH OF THE STEADY STATE

In the last four or five years, a great deal of higher education research and discussion has focused on the slowing rate of growth in enrollments (or the absolute decline in enrollments at

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[1] In 1972, the U.S. Office of Education reported approximately 2,900 collegiate institutions, 11,700 noncollegiate institutions of which 8,200 are accredited, and 66,800 other organizations including churches, other religious organizations, YMCA, YWCA, Red Cross, civic groups, and other social service and cultural groups.

Table 1: Postsecondary Education Enrollments, 1967, 1969, and 1972

(Numbers in Thousands)

Enrollment Categories	1967	1969	1972
Collegiate Sector			
Degree Credit Enrollment	6,409	7,484	8,220
Noncredit Enrollment	5,644	4,381	5,932
Noncollegiate Sector Enrollment			
Public Grade/High School		1,970	2,203
Private Voc/Trade/Business		1,504	1,400
Other			
Employer		2,274	2,612
Community Organization		1,554	1,598
Tutor or Private Instruction		763	944
Other Sponsors		2,606	2,514
Unduplicated Postsecondary Enrollments			
Degree Credit	6,409	7,484	8,220
Nondegree Credit	11,718*	13,041	15,734
Total	*18,127*	*20,525***	*23,954****

SOURCES: These U.S. Office of Education surveys and publications: "Noncredit Activities in Institutions of Higher Education, 1967-68" (Government Printing Office, 1972); "Participation in Adult Education: Initial Report 1967" (1971); Adult Education Participation Survey, 1972, preliminary tabulations; and Projection of Educational Statistics to 1981-82 (1973).

*Estimated from 1969 and 1972. Relationship of nondegree credit enrollment to degree credit enrollment.

**The noninstitutional civilian population age 17 and over for this date was 130,314,000.

***The noninstitutional civilian population age 17 and over for this date was 138,865,000.

some institutions). Demographic statistics (such as plummeting birth rates and stable or falling rates of college attendance have been gathered and widely accepted; they portend little change in enrollments for the next decade or two. College enrollments more than doubled in the 1960s, but forecasts claim only about a 20 percent increase in the 1970s. This prediction indicates a fall in the average rate of growth from better than 7 percent to less than 2 percent.[2]

On the basis of such demographic trends, some have concluded that "institutional competition for students will increase to intense levels bordering on the rapacious. Some institutions--both public and private--will no doubt be forced out of enrollments."[3] But predictions of enrollment stagnation and institutional cannibalization are based on the assumption that liberal arts is the message and 18-22 year olds are the audience for postsecondary education; that institutions are unlikely to attract new clientele; and that continuing education is not likely in our society to become an accepted activity pattern.[4]

While the oft-cited, pessimistic demographic projections and collegiate participation trends are borne out by empirical evidence, the prevailing assumption about the primacy of liberal arts, the absence of new clientele, and the illegitimacy of continuing education find little support from the available data. For instance, according to the 1971-72 Higher Education General Information Survey (HEGIS) data, liberal arts programs represented only 22 percent of programs offered by collegiate institutions and accounted for only 30 percent of collegiate sector enrollments. And over one-half

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[2] Financing Postsecondary Education in the United States (Government Printing Office, December 1973), p. 23.

[3] Lyman A. Glenny, "Pressures in Higher Education," College & University Journal (1973), p. 7.

[4] For a full expression of views based on such assumptions, see Glenny, op. cit.

(54 percent) of the liberal arts programs were offered by liberal arts institutions,[5] which claimed less than 8 percent of total collegiate sector enrollments. The remaining 46 percent of the liberal arts programs are largely in comprehensive colleges; and while we do not know their enrollments by program, their total is 30 percent of the collegiate sector enrollment.[6]

American postsecondary education has evolved into an enterprise in which most institutions are not liberal arts colleges, most academic programs are not liberal arts programs, and most students are not enrolled in either liberal arts colleges or liberal arts programs. The collegiate sector is currently engaged primarily in occupational, professional, and two-year terminal programs; the noncollegiate sector is engaged almost exclusively in occupational, professional, and short-term programs. As shown in Table 2, over 60 percent of the adult education activities are professionally-related or for credit. Basing national policy towards postsecondary education on the premise that liberal arts education for youth is the dominant form of American postsecondary education is probably unwise for the future and unsupported by the evidence of the present.

The second assumption of steady state is that institutions of postsecondary education are unlikely to attract new clientele beyond the traditional group of 18-21 year olds seeking degree credit. The fact is, however, that a new clientele has already been attracted to postsecondary education in general and to traditional institutions in particular; we have simply closed our eyes to these individuals. A 1967-68 survey by the U.S. Office of Education indicates that 55.5 percent of the 2,202 responding institutions enrolled some 5.6 million

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[5] Financing Postsecondary Education, p. 162. HEGIS uses five categories of academic programs: liberal arts, occupational, professional, teacher training, and two-year. The figure of 22 percent does not include the many subcategories of each program.

[6] Financing Postsecondary Education, p. 15. Note: the enrollment figures are for 1972-73 while the program figures are for 1970-71, the last year for which program data were available at the compiling of the Financing manuscript.

Table 2: Distribution of Adult Participation in Educational Activities, 1972

Activity	1969(%)	1972(%)
Adult Basic Education	4.0	3.5
Americanization	0.7	0.5
High School & College Courses for Credit	20.0	19.0
Technical and Vocational Skills	20.4	19.4
Managerial Skills	6.5	6.4
Professional Skills	14.5	16.8
Civic and Public Affairs	2.0	1.9
Religion	4.7	3.4
Safety	1.8	2.3
Home & Family Living	3.0	3.6
Personal Development	8.0	9.1
Hobbies	7.8	7.6
Sports and Recreation	3.1	3.5
Other	3.5	3.0
Total	100.0%	100.0%

SOURCES: U.S. Office of Education, Adult Education Participation Survey 1969, special calculations; and Adult Education Participation Survey 1972, special calculations.

adults (in some form of noncredit adult educational activity)[7] and some 6.4 million traditional degree credit students. Furthermore, these statistics on adult enrollees are believed to be understated significantly.[8] Without compensating for such an undercount, we see that even seven years ago most institutions of higher education offered formal learning opportunities for adults--and thereby served a clientele almost as large as the traditional youth clientele.

While postsecondary educational institutions often do not recognize the large adult clientele that they are now serving, they similarly do not recognize the large adult clientele that they are *not* serving. Table 3 shows that 29 percent of "would be" learners wanted to study at postsecondary educational institutions, but only 17 percent of actual learners enrolled in these institutions. Without appropriate institutional settings for their learning activity, twice the proportion of people studied at home or on the job (30 percent) as the proportion that wanted to (15 percent). Although this evidence is not conclusive, it does suggest that if institutions of postsecondary (and secondary) education were more responsive to the desires of adult learners, adult participation in postsecondary educational institutions might increase by 50 percent.

The third assumption behind the steady state theory--that continuing education is not likely to become an accepted pattern for education in our society--reflects tellingly the divergent levels of public and institutional awareness about education. Actually, adults over 24 have enrolled in large numbers, even though many college faculty members and administrators denigrate continuing education when it comes to granting academic credit or evaluating faculty involvement and while most state and federal financing programs exclude continuing education. This age group voted time and dollars to affirm that continuing education is a perfectly legitimate form of education. One-eighth of the entire adult population was enrolled in 1972 in some form of continuing adult education. In 1972,

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[7] Florence B. Kemp, Noncredit Activities in Institutions of Higher Education (Government Printing Office, 1972).

[8] Ibid., p. 1.

Table 3: Relationship Between Locations Desired and Actually Used for Adult Learning, 1973

Locations	Percent of Desired Locations*		Percent of Actually Used Locations*	
Home	10		17	
Employer	5		13	
Public High School	16		9	
Private Voc/Bus/School	8	29	3	17
Public 2-Year College	10		6	
4-Year College or University	8		6	
Graduate School	3		2	
Community Free School	10		3	
Business Site	5		5	
Individual Instruction	5		4	
Correspondence School	4		2	
Local Social Organizations	3		6	
Arts or Crafts Studio	3		0	
Religious Group	2		6	
Government Agency	2		5	
Library, Museum	1		2	
Recreational Groups	1		2	
Other	6		7	

SOURCE: Abraham Carp, et al., "Learning Interests and Experiences of Adult Americans," mimeographed (Berkeley, California: Educational Testing Service, 1973), pp. 76-77 and 82-83.

*Columns are rounded and may not add to 100 percent.

26 percent of the 18-24 year old group was enrolled in the collegiate sector.[9] By contrast, in the same year, 31 percent of all college graduates, 23 percent of all adults who had completed some college work, and 15-20 percent of all adults with incomes over $10,000 were enrolled in one or more continuing education programs (see Table 4). And because more women than men were enrolled, and 45 percent of all adult participants were over 35 (see Table 5), continuing education enrollments were more in tune with the age and sex distributions of the general population than were collegiate enrollments. It would be more accurate to restate the third assumption to recognize that public and traditional institutional policies are significantly incongruent with the accepted pattern of continuing education in our society.

The steady state theory of enrollments in postsecondary education is unsupportable for two basic reasons: (a) the assumptions on which the prediction is based--that is, the primacy of liberal arts over occupational and career training, the absence of new clientele, and the illegitimacy of continuing education--are not supported by the available evidence; and (b) the demographic and participation trends in the adult population (upward) are just the opposite of the corresponding trends in the 18-22 year old population. While the adult population is growing at about 2 percent per year, continuing education enrollments are growing at about 7 percent per year,[10] the same rate higher education enrollments grew during the baby-boom of the 1960s. The adult participation rate is thus increasing about 5 percent per year. And it has all the more potential impact because it is applied to an adult population that is now more than 6 times as large as the 18-22 year old population. The increasing adult participation rate will probably more than counterbalance the expected steady or declining rate of participation by the 18-22 age group.

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[9] U.S. Bureau of the Census, Current Population Survey (October 1972), special tabulations. The age range 18-24 is used because comparable 18-21 statistics are not available.

[10] Computed from Table 1.

Table 4: Population Participation Rates in Adult Education, by Income and Education, 1972

Income	Highest Level of Educational Attainment				All Educational Levels
	Non High School Grad	High School Graduate	Some College	College or Grad Degree	
0- 2,999	2.6%	9.4%	20.4	22.2%	5.1%
3,000- 5,999	3.5	10.2	18.4	24.0	7.4
6,000- 7,499	4.0	10.7	22.2	21.3	9.4
7,500- 9,999	4.8	11.3	23.1	30.4	11.5
10,000-14,999	5.7	13.7	22.8	33.2	15.2
15,000-24,999	5.4	14.2	26.4	33.8	19.1
25,000-over	3.3	15.0	21.5	26.5	19.9
Average of all Income Levels	*4.1%*	*12.4%*	*22.9%*	*30.5%*	*12.4%*

SOURCE: U.S. Office of Education, Adult Education Survey 1972, special tabulation.

Table 5: Population Participation Rates in Adult Education, by Sex and Age, 1972

Sex	Age	Participants (%)	Number of Participants ('000)	Adult Population* ('000)	Participation Rate (%)
Male	17-34	27.7	4,365	19,390	22.5
	35-54	18.2	2,855	21,825	13.1
	55+	3.3	518	17,111	3.0
All Men		*49.2*	*7,738*	*58,326*	*13.3*
Female	17-34	27.2	4,279	23,414	18.3
	35-54	18.2	2,870	23,895	12.0
	55+	5.4	847	21,628	3.9
All Women		*50.8*	*7,996*	*68,937*	*11.6*
Total		*100.0%*	*15,734*	*127,263*	*12.4%*

SOURCE: U. S. Office of Education, Adult Education Survey 1972, special tabulation.

*Excluding current full-time students.

Knowing these trends, it is hard to feel in step with the steady state prophets of doom. While for postsecondary education these are perhaps not the best of times, they are also far from the worst of times: the demand for postsecondary education is strong and growing as adults of all ages seek personal and professional development; most of the learning opportunities are occupationally oriented, in recognition of the critical linkages between work and education;[11] institutions are demonstrably responsive (some would argue too responsive) to changing societal needs and priorities; and postsecondary education has already done far more to serve a broad constituency that it recognizes or for which it is recognized.

II.

PUBLIC POLICY CONCERNS ABOUT FINANCING POSTSECONDARY EDUCATION

The conditions of institutional financial distress, faculty collective bargaining, limited productivity gains, rapidly changing labor markets, and competing demands for public funds, all severely complicate educational policy makers' decisions, especially about financing.[12] Comfortable with the view that "postsecondary" means "colleges with a youthful constituency" and persuaded by the myth of steady state in student demand for education, most state and federal policy makers have dealt with only a small part of the postsecondary educational enterprise. Similarly, most researchers have focused their attention only on youthful collegiate students. Consequently, we have little data to inform the decisions of policy makers dealing with the broad purview of postsecondary education.

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[11] See Chapter 5, Work in America (Cambridge, Mass.: MIT Press, 1973), for a discussion of the relationship between work and education.

[12] For a lucid description of these conditions, see Earl F. Cheit, "Coming of Middle Age in Higher Education," paper presented to the National Association of State Universities and Land-Grant Colleges, November 13, 1972.

The major concerns besetting national policy makers in their consideration of financing postsecondary education fall into three areas: (1) the *equity* with which postsecondary education and its financing programs are accessible within our society; (2) the *effectiveness* of public policy programs in accomplishing public objectives; and (3) the *division of responsibility* for financing postsecondary education among federal, state and local governments, participants (or their families), and the private sector.[13] All three of these major concerns can directly affect not only individual demand for postsecondary education but also institutional decisions as well.

Equity

Equity is a particularly difficult concept to sort out. Perhaps it is easier to begin by agreeing what, for public policy purposes, equity does not mean. Equity does not mean that every individual or institution makes the same decisions. On the contrary, individuals choose on the basis of their own preferences and institutions reach decisions on the basis of the preferences of their constituent members. Equity offers the possibility of making choices this way.

Nor does equity mean that every person should receive the same public subsidy for their postsecondary education. In *Rodriguez* (1973) and other recent decisions, the Supreme Court has held that elementary and secondary education is not a right; such a decision makes it difficult to argue successfully that postsecondary or recurring education is a right. The *Rodriguez* decision also means that there is no legal requirement to distribute public funds on an equal per capita basis. Independent of the legal argument, distribution by means of equal per capita or other subsidy formulas makes little economic sense for two reasons: (a) different educational programs cost substantially different amounts; and (b) different financial subsidies are needed to encourage enrollments by different groups of individuals or to affect the decisions of different types of institutions (either to encourage the development of specialized skills or to promote particular social objectives).

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[13] Such institutional policy concerns as financial distress, governance, collective bargaining, and tenure, are not highlighted in this list focusing on individual demand for postsecondary education. However, they will be of direct concern when they affect these three major areas.

Nor does equity mean enrollment of equal proportions of various demographic groups, such as women, minorities, or persons over 25 years old. Nor does it mean equal proportions of each kind of postsecondary educational institution. Nor does it mean equal financing for each institutional type. Such a definition of equity is tantamount to a quota system; if rigorously applied, it would arbitrarily constrain everybody to a fixed ratio of human and institutional types, a ratio based on the participation rate of the least interested demographic group or the institutional type with the fewest members.

Our society's notion of what equity is (or is not) has evolved like case law; it is based on past responses to particular situations. The last twenty years of progress in civil rights, for instance, have certainly affected our notion of equity: such experience requires that individuals not be denied access to postsecondary education on the basis of age, sex, race (or ethnic group), country of origin, or religion. The last fifteen years of federal student aid legislation are also part of our notion of equity; they underscore that a low level of family income or assets should not deter individuals who desire to attend postsecondary educational institutions from doing so. And over the past several years, federal procedures for awarding grants and contracts have been established to provide a wide variety of institutions a chance to compete equitably.[14]

The meaning of "equity" is always evolving, and precision in its definition is mercurial. On the whole, however, the concept of equity in postsecondary educational policy always seems to consist of two factors: (a) that policies cannot be used to discriminate against individuals or institutions; and (b) that institutional decisions cannot so discriminate. In the first instance, legislation and court enforcement oversee implementation; in the second, imaginative and effective public programs implement the objectives.

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[14] A set of criteria for equity in public policy towards postsecondary education can be formulated analytically. For one such formulation, see George B. Weathersby, "A Broad View of Individual Demand for Postsecondary Education: Major Policy Issues," a paper delivered at NCHEMS' National Invitational Seminar (May 16, 1974).

Effectiveness of Public Policy Programs

While equity has been a major objective of public policy on individual demand for and institutional supply of postsecondary education, it has not been the only objective of public involvement. National Direct Student Loans, NSF fellowships and traineeships, the GI Bill, EPDA fellowships, NSF, NIH, NIMH, and other programs financing postsecondary educational research have served special purposes beyond equity. With multiple objectives in public policy, evaluating the effectiveness with which public policy programs achieve these public objectives is difficult and imprecise; federal and state governments have devoted a great deal of effort in this regard. In this paper, however, effectiveness is examined just in terms of the ways that public policies influence individual demand and institutional supply of postsecondary education.

As several studies of student demand have found, the following variables (among others) are significantly correlated with young people's choices of entering and remaining in postsecondary educational institutions: individual academic achievement; secondary school curriculum; price of attending postsecondary education; instructional program characteristics; and parental education, occupation, wealth, and income.[15] There are significant interrelationships among many of the student-related variables (such as family education, occupation and income) and institution-related variables (such as tuition, student aid, program offerings, and program quality). These variables are affected by public financing decisions; and they in turn affect individual attendance decisions.

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[15] There has been some empirical research on individual demand and virtually no empirical research on institutional supply. Research on individual demand includes: Stephen A. Hoenack, W.C. Weiler, and Charles C. Orvis, "Cost-Related Tuition Policies and University Enrollments," mimeographed (Management Information Division, University of Minnesota, 1973); Stephen A. Hoenack, "The Efficient Allocation of Subsidies to College Students." American Economics Review, Vol. 61 (June 1971), pp. 302-311; Stephen A. Hoenack and Paul Feldman, "Private

To understand the effectiveness of public postsecondary education policy in terms of individual demand and institutional supply, it is important to distinguish between price subsidies and income subsidies. Price subsidies are conditional upon and/or related to making particular decisions, such as institutional willingness to operate with open admissions or students to enroll in postsecondary education. Basic Grants, Guaranteed Student Loans,[16] Veterans' benefits, and low tuition are examples of student price subsidies, because the individual does not receive these subsidies if he or she is not enrolled in an approved form of postsecondary educational institution. Examples of individual income subsidies are welfare and unemployment benefits; but there is virtually no information on the proportion of these income subsidies devoted to postsecondary

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[15] (continued) Demand for Higher Education," Economics and Financing of Higher Education in the United States, Joint Economic Committee (1969), pp. 375-398; A.J. Corrazzini, et al., "Determinants and Distributional Effect of Enrollment in U.S. Higher Education," Journal of Human Resources, Vol. III, No. 1 (Winter 1972), pp. 39-59; R. Campbell and B.N. Siegel, "Demand for Higher Education in the United States," American Economics Review, Vol. 57 (June 1967), pp. 482-494; Leonard S. Miller, "Demand for Higher Education in the United States," unpublished paper presented to the National Bureau of Economic Research Conference on Education as an Industry (June 1971); David Mundel, C. Manski, and Meir G. Kohn, A Study of College Choice, published paper presented to Economists Society (December 1972); R. Radner and L.S. Miller, "Economics of Education: Demand and Supply in U.S. Higher Education--Progress Report," American Economics Review (May 1970), pp. 326-334.

[16] The role of public policy has been to increase the supply of low-priced loan money to institutions and students, which is just another form of price subsidy. Undoubtedly, institutional and student loans would be available without government guarantees, subsidies, or direct loans; but purely commercial loans for institutions or students would carry a high interest rate.

education. General institutional support and unrestricted gifts are examples of institutional income subsidies.[17]

Most public support for postsecondary education is in the form of price subsidies--either in the form of low tuition subsidies in public institutions (about $9 billion in Fiscal Year 1972) or student aid ($4.2 billion). Out of a total public involvement of $17.4 billion, then, price subsidies in 1972 totaled $13.2 billion.

If the assertion is correct that price subsidy is the principal strategy for public intervention in the financing of postsecondary education, then we should ask, "How effective are alternative mechanisms for delivering price subsidies in affecting (a) individual decisions to attend postsecondary institutions, or (b) institutional responses to public policy changes?" Unfortunately, there is very little information with which to answer this double-edged question.

No major study has estimated empirically the comparative degrees of effectiveness among student grants, student loans, student work, tax credits, low tuition, and other forms of financing in affecting, favorably, student decisions to attend postsecondary educational institutions. Most empirical studies of individual demand for education have analyzed the effects of *tuition* on the probability that recent high school graduates will attend postsecondary educational institutions. Their results fall in the range of a statistically significant 1 percent to 3 percent decline in enrollments for a $100 increase in tuition; and they indicate that individuals from low-income families are slightly more responsive than individuals from high-income families to increases or decreases in tuition. In other words, from the available evidence, we would expect price subsidies through low tuition to have an effect on individual demand for postsecondary education--but the effect is small. Lowering tuition $100 would have a likely effect on increasing enrollments by 1 percent to 3 percent; for each additional student attracted to postsecondary education, these findings imply, an additional subsidy of $3,000 to $10,000 would be needed.

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[17] Some public and private programs do seek through other means than price to intervene. According to some studies, for instance, if public policy could affect secondary school tracking policies or individual aspirations, then changes could significantly affect individual aspirations and enrollment decisions. Similarly, if decisions about faculty recruitment and promotion, curriculum development, and student admissions were more closely related to public purposes, institutional effectiveness might well be increased.

Similarly, there are no major studies that have estimated empirically the differential effectiveness of various forms of institutional support. Most studies of institutional behavior have examined average behavior and not efficient use of resources.[18] Only recently have changes in institutional decisions in response to changes in public policy been analyzed.[19]

The effectiveness of public policies on financing programs should not be concerned solely with technical efficiency, however; morality also plays a role. Many policy makers feel that it is "unfair," "unjust," and possibly "immoral" for individuals from poor families (one never uses "low income" for "poor" when morality is the issue) to pay the full cost of their education or for developing institutions to remain less than developed. Some policy makers view postsecondary education as a good that people should possess independent of their willingness or ability to pay for it. Similarly, some believe that individuals simply should not complete postsecondary education only to face substantial school debts. For whatever reason, questions related to financing delivery mechanisms are often moral issues to be resolved by voting, rather than technical issues to be resolved by analysis.[20]

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[18] Daryl E. Carlson, "The Production and Cost Behavior of Higher Education Institutions," U.C. Berkeley, Ford Foundation Program for Research and University Administration (December 1972), paper no. 36.

[19] Vaughn Huckfeldt, George Weathersby, and Wayne Kirschling, A Design for a Federal Planning Model for Analysis of Accessibility to Higher Education (Boulder, Colorado: National Center for Higher Education Management Systems, 1973).

[20] "The public often makes up its mind more on what it perceives to be right, regardless of historical precedent, legal argument, and even hard fact to the contrary." Robert C. Andringa, "New Demands by Government for More Information from Postsecondary Education," paper delivered at 2d National Forum on New Planning and Management Practices in Postsecondary Education, Chicago, Illinois, (November 1973).

Where does all of this leave us? As equity continues to be the central issue in financing postsecondary education and as wage earning adults and very diverse institutions are more and more recognized as the major consitutents of postsecondary education, then the morality of financing mechanisms will become an increasingly less important concern, to be replaced by important considerations about the efficiency and effectiveness of public financing policy. Because there is very little data available about the relative efficiency of different public financing policies, efficiency is an important area for future research.

Division of Responsibility

The third vexing concern in public policy is the appropriate division of responsibility--among governments, institutions, and recipients (students)--for the financing of postsecondary education. A particular historical process has led to some widely accepted patterns of financing: almost every state has maintained a distinction between financing undergraduate and graduate education; a great many of the adult and continuing education programs are self-supporting or only modestly subsidized; and the profit-seeking proprietary institutions have rarely received any public support. These patterns are being reexamined in today's strong dialog on the division of responsibility.

With almost 78,000 institutions, governmental units, and private parties supporting postsecondary education with tens of thousands of different financing arrangements, it is difficult to generalize about the *appropriate* division of responsibility. However, several simple observations illuminate the complexity of such a reexamination.

The first observation is that people do not complain about the cost of a good or service until the perceived cost becomes high relative to the perceived benefits. It is unclear whether the current interest in the appropriate division of responsibility arises out of public disappointment with the apparent benefits or public disaffection with rising costs of postsecondary education. Whichever reason, it seems reasonably clear that costs are going to continue increasing--independent of the apparent benefits of postsecondary education. As Table 6 shows, during the 1960s, the public costs for the collegiate sector, whose institutions receive the bulk of public financial support, increased almost twice as rapidly as enrollments (12.4 percent per year versus 7-8 percent per year). The USOE forecasts that this trend will continue for the 1970s, with public costs increasing at 5.9 percent per year versus 3.2 percent increase in enrollments.[21] Meanwhile, all nonpublic costs (including tuition and fees), which have also increased, are forecasted to continue increasing at the same rate as enrollments. In other words, according to USOE analyses and forecasts, the public costs of financing collegiate institutions will increase about twice as fast as nonpublic costs. Thus, the share of collegiate institutional costs borne by the public may well grow for the next 20 years. This prospect alone may explain some of the public dialog now underway on the appropriate division of financial responsibility.

Table 6: Past, Current and Forecasted Enrollments and Expenditures in the Collegiate Sector

Categories of Expenditures	1961-62 (million)	Percent Average Annual Rate of Change (%)	1971-72 (million)	Percent Average Annual Rate of Change (%)	1981-82 (million)
Public, Instruction & Research	$3.1	13.9%	$11.4	6.7%	$21.9
Public, Total Current	5.3	12.4	17.1	5.9	30.5
Nonpublic, Inst. & Research	2.3	8.5	5.2	3.4	7.3
Nonpublic, Total Current	4.4	7.8	9.3	3.5	13.1
Enrollment	3.86	7.8	8.12	3.2	11.11

SOURCE: U.S. Office of Education, Projection of Educational Statistics, (Government Printing Office, 1973).

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[21] Projection of Educational Statistics (Government Printing Office, 1973). This projected increase in enrollment is almost twice other enrollment projections by the Census Bureau and the Carnegie Commission.

The second observation is that each financial supporter views his or her financial role as only marginal rather than basic and vital. As costs continue to rise, as the tuition and fees paid by students continue to increase, and as the focus on the division of responsibility intensifies, the degree to which each institutional or individual participant sees his or her role as marginal will probably also increase. This perception in turn will lead to increased demands for cost analysis to prove that one is not paying more than his or her defined marginal share. Because of the extensive interrelationships among their various activities, major research universities and other multiple function institutions are particularly susceptible to the destabilizing influence of this perception of marginal support. With the exception of proprietary schools, postsecondary institutions are susceptible to the downward spiral of support engendered by this philosophy of financing.

The third observation is a logical extension of this philosophy: namely, the costs of postsecondary education should be borne in proportion to the benefits received from it. The determination of both the magnitude and the distribution of postsecondary education benefits have so far eluded calculation. In the past decade, human capital theorists and empiricists have correlated the rates of return and various levels of education.[22] Others have interpreted residual rates of economic growth as attributable to various levels of education.[23] And the Carnegie Commission, which estimated that two-thirds of the benefits are distributed to the individual and one-third to the society, has argued that the same distributions should be applied to the total costs of education.[24]

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[22] See Garry S. Becker, Human Capital: A Theoretical and Empirical Analysis (National Bureau of Economic Resources, 1964); Richard Eckhaus, Estimating Returns to Education (McGraw-Hill, 1974); and Theodore W. Schultz, Investment in Human Capital: The Role of Education and of Research (Free Press, 1971).

[23] Edward F. Denison, The Sources of Economic Growth in the United States and the Alternatives Before Us (New York: Committee for Economic Development, 1962).

The question of the appropriate division of responsibility for financing postsecondary education serves as a basis for bargaining, not analysis. A careful analysis of postsecondary education benefits to each of the major participants could be used to set a logical upper limit of the amount each should pay; but assuming total benefits exceed total costs, the minimum that each can politically manage to pay is a highly negotiable amount.

III.

SUMMARY

Much recent research in postsecondary education has focused almost exclusively on the collegiate sector--especially to warn about a dire future, given the declining rate of growth in youth enrollments and the signs of potential financial distress. However, by expanding our view to encompass the enrollments of adults of *all ages* in *all forms* of postsecondary education, not just the collegiate sector, we are led to substantively different conclusions. From this broader angle of vision, postsecondary education seems to be alive and well--even vigorous. Demands for occupationally relevant areas are increasing; and there is apparently even more participation of over-24 year olds than institutions realize. There are definitely signs of growth, vitality, and hopefulness.

These forces for growth--such as the need to develop new programs to meet the needs of a newly-recognized clientele--will accentuate a number of major questions of public policy. These major questions will include: the equity with which postsecondary education is accessible within our society; the effectiveness of public financing policy in accomplishing public objectives; and the division of financial responsibility for postsecondary education among its many supporters. As always, far more remains unknown than policy makers would prefer: important research questions have been and should be pursued to aid policy considerations about financing postsecondary education.

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[24] Carnegie Commission on Higher Education, Who Pays? Who Benefits? Who Should Pay? (New York: McGraw-Hill, 1973).

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Paper 2

THE NEW ADULTS AND THE FINANCING OF POSTSECONDARY EDUCATION: THE IMPLICATIONS OF 18-YEAR-OLD MAJORITY

NCFPE Staff Members

Paper 2

THE NEW ADULTS AND THE FINANCING OF POSTSECONDARY EDUCATION: THE IMPLICATIONS OF 18-YEAR-OLD MAJORITY

In the context of financing postsecondary education, lowering the age of majority from 21 to 18 has several direct implications: (1) more 18-year-old independent students can seek student aid resources based on their student income rather than their family income; (2) out-of-state tuition differentials may not be sustainable; (3) assumed *in loco parentis* responsibilities (and their costs) may soon be unwarranted; and (4) the sharp cleavage between young adults (18-21) and other adults made in student support policies may no longer be admissible. This paper first outlines the current legal and institutional context for 18-year-old majority. Then, it discusses the financing implications--such as the impact on enrollments of distributing the same amount of student aid on the basis of student income determined need vis-à-vis family income determined need.

I.

THE INSTITUTIONAL CONTEXT FOR 18-YEAR-OLD MAJORITY

The consequences of recognizing 18-year-old adults as independents are potentially great for postsecondary educational institutions, but as shown in this paper, relatively small for the finances of the enterprise as a whole. Briefly placing 18-year-old students in the context of today's postsecondary educational institutions will provide some help in assessing these institutional and financial impacts of lowering the age of majority.

To assess the consequences, we must be aware of certain prevailing myths that warp our understanding of the postsecondary education enterprise operating today. One pervasive notion is that the vast majority of students are in the 18-21 age group. But the facts belie this perception: 42.5 percent of postsecondary students in 1970 were 22 years or older.[1] (See Table 1.)

Table 1: Distribution of Collegiate Enrollments, by Age Group, 1970

Age	College Enrollment	%
Under 18	59,946	.8
18-21	4,266,874	56.7
22-24	1,333,898	17.7
25-34	1,393,841	18.5
35-49	366,056	4.9
50-over	103,966	1.4

SOURCE: American Council on Education, Report of the Committee on the Financing of Higher Education for Adult Students, draft of February 1974, p. 9.

In 1972, 26 percent of all 18-24 year olds were enrolled in the collegiate sector.[2] While in the same year, 31 percent of all college graduates and 23 percent of all adults who had completed some college work enrolled in one or more continuing education programs. In other words, in 1972, a larger proportion of adult college graduates enrolled in a program of continuing education than the proportion of young adults enrolled in a collegiate program seeking a degree.[3]

Still another myth, and probably one of the most difficult to uproot, is that a majority of students attend full time. But the enterprise is really comprised of an equal number of part-time and full-time students. The American Council on Education's Committee on the Financing of Higher Education for Adult Students came up with these findings about part-time students:

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[1] U.S. Bureau of the Census, Census of Population, School Enrollment, 1970 (Government Printing Office), p. 343.

[2] U.S. Bureau of the Census, quoted in Financing Postsecondary Education in the United States (Government Printing Office, 1973), p. 137. The age range 18-24 is used because comparable 18-21 statistics are not available.

[3] Dorothy M. Gilford, "The Noncollegiate Sector: Statistical Snapshots of Adult Continuing Education," paper presented at the American Association for Higher Education (March 12, 1974), p. 12.

> (1) When you account for students in all sectors of postsecondary education, you find more part-time students than full-time students in credit and noncredit courses (55 percent v. 45 percent in 1969; 57.5 percent v. 42.5 percent in 1972).
>
> (2) Part-time students increased at a rate 2.3 times faster than full-time students between 1969 and 1972 (20.4 percent part-time v. 8.8 percent full-time). In the collegiate sector, the rate of increase of part-time students was 35.3 percent, or 3.5 times greater than for full-time students (10.1 percent increase).
>
> (3) Approximately one-half of students in collegiate institutions in 1972 were part-time.[4]

Another myth that dies hard is that the 18-21 age group seeks liberal arts training. Actually, the collegiate sector is currently engaged primarily in occupational, professional, and two-year terminal programs; and the noncollegiate sector is engaged almost exclusively in occupational, professional, and short-term programs. In spite of its self-image or self-delusions, American postsecondary education is not about Thoreau's poets by ponds or Druids in forests; it is about people preparing to work.

In short, postsecondary education today actually encompasses both degree and nondegree credits for *all* organized learning opportunities beyond secondary school; it incorporates adults of *all* ages; it includes collegiate, noncollegiate, and community organizations. It serves a grand total of 25 million students in about 78,000 institutions: 66,700 adult education, 8,182 accredited noncollegiate institutions, and 2,984 collegiate. To understand the potential role of a

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[4] American Council on Education, "Part-Time Students--How Many Are There," Report of the Committee on the Financing of Higher Education for Adult Students, draft form (February 1974), pp. 25-33.

new adult segment of the student body (18-21) requires a recognition of the place of this group not as the hub but as an integral part of postsecondary educational institutions.

Once we accept the fact that 18-21 year olds are not a special or peculiar class of people, but very like other adults, we discover a different and more accurate picture of postsecondary education. And the concomitant mechanisms for financing postsecondary education--even the concept of student aid itself--must be scrutinized as a result.

II.

STUDENTS' INCOME V. PARENTS' INCOME

> The Supreme Court of Michigan has ruled that a person is an adult in our state at age 18. They can legally be held responsible and can be removed from their parents' home and care if so desired. Why then must a father's income be the first consideration when a student applies for financial aid?
>
> --Letter from a Michigan constituent
> of Congressman James O'Hara

Total support for postsecondary education in 1971-72 consisted of an estimated $25.1 billion in institutional support and $4.4 billion in student financial aid. State and local governments were the principal source of institutional support, while the federal government was the principal source of student financial aid used by students to pay tuition and other fees. Of the $4.4 billion spent on student aid in 1972, $3.9 billion (or 88 percent) was provided by the federal government. As Allan Cartter puts it: "The new federal philosophy, expressed in the Education Amendments of 1972 (although not yet fully implemented), establishes as a federal responsibility the basic funding of a system of universal access to higher education, and selects direct student aid as the means of implementation."[5]

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[5] Allan M. Cartter, "The Future Financing of Postsecondary Education," Panel 2 Background Paper, mimeographed, American Council on Education (October 11, 1973).

The two largest federal student aid programs, representing over $3 billion in 1973 federal obligations, are administered by the Veterans Administration[6] and the Social Security Administration. The remaining student financial aid programs include need-based student grants, work subsidies, loans, and programs targeted for particular segments of the student population. The need-based grants, loans, and other aid, totaling over $1 billion in 1973 federal obligations, include: Basic Educational Opportunity Grants (BEOG), Supplemental Educational Opportunity Grants (SEOG), Guaranteed Student Loans (GSL), College Work Study (CWS), and others.[7]

In federal statutes establishing these need-based programs and in Office of Education regulations administering them, two categories of students--dependent and independent--are defined for determining eligibility. For instance, BEOGs define dependent students as those receiving more than $600 per year in support from their parents and being declared as dependents on their parents' income tax forms. Independent students are often those who, for two consecutive years, have not lived at home for more than two consecutive weeks, have not received more than $600 per year in support from their parents, and have not been declared as dependents on their parents' tax forms. (Note that neither "dependent" nor "independent" is as yet strictly defined in the same terms across all student aid programs.)

The amount of aid to which a dependent student is entitled is based on the parents' income. For instance, Basic Educational Opportunity Grants determine the eligibility of dependent students for aid by "using a standard 'family contribution schedule' which assesses each family's expected contribution toward a student's eligible costs and expectations." (Under the BEOG's provisions, the dependent student gets a maximum of $1,400 less assets and parental contribution.) For determining a dependent student's eligibility for Supplemental Education Opportunity Grants, the "expected family income shall be considered." To be eligible for Guaranteed Student Loans, a dependent student's "adjusted family income" is required to be less than $15,000. Furthermore, to be eligible for Social Security Survivor's benefits, students must count themselves dependent upon parents. In making the award, the government puts full-time students, ages 18-22 only, through a postsecondary education--on the assumption that death, retirement, or disability has prevented the parents eligible for Social Security benefits from meeting this obligation.

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[6] The G.I. Bill provides (a) assistance for up to 36 months of full-time schooling or on the job training for eligible veterans and service personnel; (b) educational assistance for war orphans and widows; and (c) vocational rehabilitation training for disabled veterans, which provides for the cost of books, tuition, fees, and training supplies among other items.

[7] U.S. Office of Education, Bureau of Higher Education, Factbook: Summary Program Information Through FY1973 (Government Printing Office, 1974).

Today, most students seem to count themselves as dependents. Of the 297,902 valid applications for BEOGs in 1972, for example, 91 percent were dependent students, and a mere 9 percent were independent. But a 1974 survey completed for the College Scholarship Service Western Regional Subcommittee on Need Assessment reports an increase in the number of students claiming themselves independent of parental support. Of the 63 public four-year colleges responding, 41.4 percent indicated that there had been "dramatic increases" in the numbers of their students who were self-supporting and seeking financial aid on that basis. The percentages were also high for private four-year colleges, with 64 percent indicating "slightly dramatic" increases in the number of independent students. The Subcommittee found that beyond just the desire that an increasing number of young people have for claiming independence from parents, the institutions' procedures for testing "economic independence" have a definite impact on the numbers declaring independence. Institutions requiring affidavits that parents are not providing support, the study concluded, have lower than average proportions of students claiming to be independent for student aid purposes.

For most students, then, family income, described by statute or by agency regulations, is the central test for eligibility for federal student aid. According to a high official in the Office of Education, financial aid, from the agency's point of view, is primarily the responsibility of the student's family. "There is an awareness," this official said, "that changes are occurring [due to the change in the age of majority] that may have a bearing on the present method of financing student aid, but the government certainly isn't expecting it soon."

The percentage of students eligible for student aid would increase dramatically, it appears, if, based on the various independent student need schedules issued by the Office of Education, student income rather than parental income were the measure. As Table 2 shows, only 3.7 percent of freshman collegiate students surveyed by the American Council on Education estimated their parents' income at under $3,000. At the same time, 94.3 percent of this freshmen group said their own income--independent of their parents--was under $3,000. (See Table 3.) Thus, by these measures, a 90 percent or more increase in the numbers eligible for student aid is conceivable.

Table 2: Weighted National Norms for All Freshmen, All Collegiate Institutions, Fall 1973

Income Group	Parental Income	Student Income
Under $3,000	3.7%	94.3%
$3,000 - $9,999	22.4	4.8
$10,000 - $14,999	29.6	.9
$15,000 and over	44.2	--

SOURCE: American Council on Education, The American Freshman: National Norms for 1973, pp. 41-42.

Table 3: Weighted National Norms for All Freshmen, Collegiate Sector, by Type of Institution, Fall 1973

	All Institutions	Two-Year Colleges	Four-Year Colleges	Universities	Predominantly Black Colleges
Income Independent of Parents:					
None	18.8%	21.0%	19.3%	14.6%	35.5%
Less than $500	29.2	25.8	32.3	30.2	30.5
$500-$999	23.1	20.2	23.9	26.9	14.5
$1,000-$1,999	17.4	16.6	16.5	20.1	7.2
Subtotal	*88.5*	*83.6*	*92.0*	*91.8*	*87.7*
$2,000-$2,999	5.8	6.9	4.7	5.5	3.4
Subtotal	*94.3*	*90.5*	*96.7*	*97.3*	*91.1*
$3,000-$4,999	3.0	4.6	2.0	1.8	3.8
$5,000-$9,999	1.8	3.3	.9	.6	3.3
$10,000 and over	.9	1.8	.4	.3	1.9
Estimated Parental Income:					
Under $3,000	3.7%	5.3%	3.3%	1.5%	21.4%
$3,000-$9,999	22.4	28.7	21.1	14.1	50.7
$10,000-$14,999	29.6	32.6	28.4	26.5	15.5
$15,000-$24,999	27.7	23.9	29.0	32.6	8.3
$25,000 and over	16.5	9.7	18.1	25.3	4.0

SOURCE: American Council on Education, The American Freshman: National Norms for 1973, pp. 41-42.

The ACE data also show that freshmen enrolled in four-year colleges and universities are more dependent on parental income than freshmen enrolled in two-year and predominantly black colleges. 96.7 percent of four-year and 96.5 percent of university freshmen say they are dependent; whereas 90.5 percent of two-year and 91.0 percent of predominantly black college freshmen say they are dependent, a slight but significant difference. At the same time, 72.1 percent of the students in predominantly black colleges reported parental income below $10,000, in contrast to 26.1 percent of students for all institutions (averaged) reporting such an income level. And about 60 percent of the students in predominantly black colleges indicated that they received less than $500 support from their parents.

Women respondents in the ACE Survey indicated they were less independent of their parents' income than the male respondents were: 62 percent of freshmen women (all institutions combined) reported that they made $500 or less independent of their parents; 35.8 percent of the men so indicated. Where 48.1 percent of the men (all institutions) made $500 to $2,000 independent of parents, 32.0 percent of the women did. (See Table 4.) Where 22.2 percent of the male freshmen indicated earnings $500 to $999 from summer work, only 12.8 percent of the women did. As for full-time work supporting their education, 84.2 percent of the men replied "none" whereas 91.4 percent of the women so responded.

Such student dependency (as well as independence) now must rely upon the parents' willingness, rather than any legal obligation, to finance a postsecondary education or to relinquish a tax deduction. Even before many of the states had lowered the age of majority to 18, American jurisprudence did not rate postsecondary education as a necessity of life comparable to the need for food, shelter, and clothing. In various divorce decrees, the courts have awarded support to minors for postsecondary education. But the decisions often rested on the father's financial ability and the child's aptitude for college.

Table 4: Distribution of Income for College Freshmen Students from Summer Work, by Sex and Type of Institution, 1973

Support from Part-Time Summer Work	All Institutions	
	Men	Women
None	25.2	30.9
$1-$499	43.2	53.4
$500-$999	22.2	12.8
$1,000-$1,999	7.7	2.6
$2,000-$4,000	1.4	0.3
over $4,000	0.3	0.1

Support from Full-Time Summer Work	All Institutions	
	Men	Women
None	84.2	91.4
$1-$499	6.4	4.5
$500-$999	4.4	2.7
$1,000-$1,999	2.7	1.0
$2,000-$4,000	1.3	0.3
over $4,000	0.9	0.1

SOURCE: The American Council on Education, The American Freshman: National Norms for Fall 1973.

Some courts, however, have termed postsecondary education as "necessary,"[8] finding, as in *Estab* v. *Estab* (1926), that "conditions have changed greatly" from a century ago, when a "college graduate. . . was the exception[;] today such a person may almost be said to be the rule."

But, American courts have tended to rule that women suing for separation or divorce could not claim support for their children's postsecondary education, if those children had reached the age of majority or would reach it before graduation. (In most states, the court's jurisdiction over divorce statutes is limited to awarding support for minors, unless the child is physically or mentally disabled.) However, in some instances where the court was allowed discretion in this regard, fathers who were deemed financially able and who had in the past indicated that a postsecondary education was in store for the child were called upon to support that education, even if the child would turn 21 before graduation. (See, for example, *Commonwealth* ex. rel. *Decker* v. *Decker*, 203 A.2d 343 [P2. 1964]). With the increasing number of state 18-year-old majority laws, children have even less claim on their parents' support. Times have changed since Blackstone wrote over 200 years ago:

> The last duty of parents to their children is that of giving them an education suitable to their station in life; a duty pointed out by reason, and of far the greatest importance of any. For, as Puffendorf very well observes, it is not easy to imagine or allow, that a parent has conferred any considerable benefit upon his child by bringing him into the world, if afterwards he entirely neglects his culture and education and suffers him to grow up like a wild beast, to lead a life useless to others, and shameful to himself.

Projected Impacts

Assuming (1) that age of majority laws dissolve all parental obligations (though not necessarily parental willingness) to provide their 18-year-old children with a postsecondary education; (2) that family income schedules for determining student eligibility for aid might be ruled illegal in the near future; and (3) that the federal government wants to continue its laudable policy of trying to ensure equal access to postsecondary education for all Americans (no matter what income group, what sex, or what race), let us examine the potential effects of the lowering of the age of majority on the need-based system of student grants.

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[8] See *Payette* v. *Payette*, 157 Atl. 531 (N.H. 1931); *Calogeras* v. *Calogeras*, 163 N.E. 2d 713 (Ohio 1959); *Estab* v. *Estab*, 244 Pac. 264 (Wash. 1926); *Atchley* v. *Atchley*, 194 S.W. 2d 252 (Tenn. 1946); and *Feek* v. *Feek*, 60 P. 2d 686 (Wash. 1936).

For the purposes of analysis, it is very important to separate two concepts: "financial need" based on either student or family income and "price responsiveness" based on observed individual behavior.

Financial need is an arbitrary means of deciding who should (not who will) bear the cost of an individual's attendance at a postsecondary educational institution. The federal government's family contribution schedule is intended to be a consistent set of assumptions about how much support parents should (not will) provide towards meeting a student's cost of education. This expected contribution is then used as a basis for consistently distributing public funds in the form of student grants. However, there is very little evidence that financial need is related to student enrollment decisions and, therefore, to access.[9] A recent College Scholarship Service report on the results of administering its Student Resource Surveys in California, Washington, and Oregon, observed:

> Perhaps the most surprising finding in all three West Coast Student Resource Surveys is the large discrepancy between the theory of parent and student financing of higher education and the reality.
>
> The theory behind student financial aid and financial need analysis asserts that parents will contribute towards college costs to the best of their financial ability. The parental contribution is considered as the primary source of funds for college. . . .

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[9] For a discussion of the evidence on student access, choice, and opportunity, see Financing Postsecondary Education in the United States, pp. 134-156.

> In practice, the parental contribution seems to be the final step in the financing equation. First, the student works (and borrows), then he/she may apply for financial aid, and finally the parent (acting as a family aid officer) may fill the gap between those resources and the student's need.
>
> Indicative of this pattern (and also of a more disquieting pattern) is the discrepancy between expected parental contribution (as derived from college scholarship service contribution tables) and student reported parental support.
>
> . . .it still appears as if better than 40 percent of the parents in the total SRS survey are making little or no contribution towards college.[10]

On the other hand, individual price responsiveness directly estimates the impact on student enrollment decisions of the changes of either tuition or student grants.[11] The best current evidence shows that groups of individuals of all income levels respond slightly to increases in student grants, with individuals from low-income families responding (enrolling) more (3 percent) than individuals from high-income families (1 percent), given the same $100 increase in student grants.

There are correspondingly two analytical approaches to investigating the impact of using student income instead of family income to distribute financial aid. The first approach is to calculate the amount of "unmet financial need" if no family contributions were made--i.e. only student income is counted. One estimate of student income figures is that under grant limitations of $1,400 or 50 percent cost of instruction and using the BEOG contribution schedule for "independent students with no dependents," approximately 7.5 million students would have qualified in 1972-73 for $8 billion in grants. That sum is equivalent to total federal expenditures in postsecondary education in 1972. However, the unmet-need approach is misleading for two reasons: (1) many currently enrolled students experience a substantial, unmet need that bears no relationship to their decision to attend postsecondary educational institutions;[12] and (2) there is no information on the impact that additional grants might have on the access of individuals not now enrolled.

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[10] Dick Dent, Nina Cutler, John Westine, and Floyd Stearns, Oregon Student Resource Survey (Salem, Oregon: Oregon Educational Coordinating Council, June 1973), p. xvii.

[11] See Daryl Carlson, James Farmer, and George Weathersby, A Framework for Analyzing Postsecondary Education Financing Policies (Government Printing Office, May 1974) for a discussion of the evidence on price responsiveness.

The second analytical approach is to distribute the same amount of student grants in two different ways--one based on family income and one based on student income. Using the estimated price responsiveness of individuals of various incomes, one can predict the enrollment impacts of the two approaches and, therefore, the impact on access of using student income versus family income. This approach is reported below.

In this analysis, we used the same institutional categories, projected baseline enrollments, and family income distributions as were used in Financing Postsecondary Education in the United States. (See Tables 5, 6, and 7 in this staff report.) We also used the other parameters and assumptions described in A Framework for Analyzing Postsecondary Education Financing Policies. In addition, in the absence of any representative data, we assume a common student income distribution for all institutional types that is intentionally conservative: 50 percent earning less than $3,000, 80 percent earning less than $5,000, and 96 percent earning less than $10,000 (see Table 8).

Without proposing to change any other financing programs, this analysis examines the impact of the following plan:

1. $1.6 billion in 1977 and $1.8 billion in 1980 are made available in additional student grants.
2. These grants are distributed to all of the eligible individuals (incomes less than $15,000) in proportion

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[12] Massachusetts estimates $78 million in unmet needs for just over 200,000 currently enrolled students. See Peter Edelmen, Equal Opportunity Pool Proposal (Massachusetts Public and Private Forum, 1974).

Table 5: Institutional and Family Income Categories

Institutional Categories

(1) Public two-year
(2) Public four-year, lower division
(3) Public four-year, upper division
(4) Public four-year, graduate
(5) Private two-year
(6) Private four-year, lower division
(7) Private four-year, upper division
(8) Private four-year, graduate
(9) Non-collegiate

Family Income Categories (m) and Midpoints (Ym):

(1)	$ 0	-	999	$ 500
(2)	$ 1,000	-	1,999	1,500
(3)	$ 2,000	-	2,999	2,500
(4)	$ 3,000	-	3,999	3,500
(5)	$ 4,000	-	4,999	4,500
(6)	$ 5,000	-	5,999	5,500
(7)	$ 6,000	-	7,499	6,750
(8)	$ 7,500	-	9,999	8,750
(9)	$10,000	-	14,999	12,500
(10)	$15,000	-	24,999	20,000
(11)	$25,000	-	over	50,000*

*Chosen to represent the median income of those families or individuals earning more than $25,000 per year.

Table 6: Projected Baseline Postsecondary Education Enrollments (In Thousands of Students)

	Institutional Categories								
Year	1	2	3	4	5	6	7	8	9
1974	1,763	1,797	1,613	1,083	95	824	646	549	1,632
1975	1,836	1,810	1,624	1,091	92	832	652	554	1,662
1976	1,913	1,832	1,645	1,104	94	839	658	560	1,698
1977	1,990	1,857	1,666	1,119	97	849	666	566	1,732
1978	2,056	1,881	1,688	1,133	98	860	675	574	1,767
1979	2,108	1,894	1,699	1,115	99	868	681	579	1,802
1980	2,138	1,894	1,700	1,114	100	867	680	578	1,838
1981	2,155	1,890	1,697	1,140	100	863	677	576	1,875
1982	2,162	1,874	1,682	1,129	99	859	674	573	1,912
1983	2,196	1,845	1,656	1,112	97	845	663	563	1,950
1984	2,106	1,807	1,622	1,089	95	823	645	549	1,990
1985	2,052	1,760	1,580	1,060	93	793	622	528	2,029

SOURCE: Projections published by the National Center for Educational Statistics, U.S. Office of Education; apportioned to institutional sectors by NCFPE staff.

Table 7: Percentage Distribution of Postsecondary Education Enrollment Across Family Income Categories*

Family Income Category	Institutional Categories								
	1	2	3	4	5	6	7	8	9
1	0.6%	0.7%	0.7%	0.3%	0.0%	0.2%	0.2%	0.0%	1.3%
2	1.2	1.5	1.5	0.6	4.2	1.0	1.0	2.4	1.9
3	2.5	1.6	1.6	1.1	1.4	2.9	2.9	0.8	2.5
4	3.9	3.0	3.0	2.3	1.4	3.2	3.2	0.0	4.5
5	4.5	5.0	5.0	3.6	0.0	2.2	2.2	2.4	5.4
6	4.5	4.7	4.7	2.7	2.8	3.8	3.8	4.8	5.1
7	8.2	6.4	6.4	5.1	9.7	5.5	5.5	3.2	9.4
8	13.8	13.7	13.7	12.2	13.9	10.7	10.7	9.6	15.8
9	33.0	28.0	28.0	33.9	31.9	27.6	27.6	32.0	30.2
10	20.8	24.5	24.5	29.7	19.4	25.7	25.7	28.0	18.7
11	7.0	10.9	10.9	8.5	15.3	17.2	17.2	16.8	5.2
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

SOURCE: U.S. Bureau of the Census, "Current Population Survey," October 1972, special tabulations.

*The data from this table is combined with the data from Table 6 to compute the baseline enrollment for each institutional category and income category (n^b_{im}) for each year.

Table 8: Assumed Percentage Distribution of Student Income in All Institutional Types,* 1974

Income	Percent	Cumulative Percentage
0 - 999	10%	10%
1,000 - 1,999	15	25
2,000 - 2,999	25	50
3,000 - 3,999	17.5	67.5
4,000 - 4,999	13	80.5
5,000 - 5,999	8	88.5
6,000 - 7,499	5	93.5
7,500 - 9,999	3	96.5
10,000 - 14,999	2	98.5
15,000 - 24,999	1	99.5
25,000 - over	0.5	100.0%
	100.0%	

SOURCE: NCFPE staff calculations.

*This distribution is slightly higher than the income distribution for freshmen shown in Table 4, because it represents a judgment of the income of all ages and levels of undergraduates.

> to their "need"--that is, proportional to the tuition of an institutional sector and inversely proportional to the individual or family income.[13]

In the following discussion, we will refer to the two alternative plans as "Family Income-Need Based" (FINB) and "Student Income-Need Based" (SINB); the only difference is the income distribution used to determine the eligibility for the grants and their distributional pattern.

The fundamental conclusion of this analysis (see Tables 9, 10, 11) is that under the reasonable assumptions specified above, a student income need-based grant program will be more effective in increasing student access and choice than a family income need-based grant program, for the same expenditure. Table 9 shows that with SINB grants, enrollments at public 4-year, private, and noncollegiate institutions increase more than with FINB grants. The percentage increase in low-income enrollments (under $10,000) is less with SINB than FINB grants only because 96 percent of all students are assumed to earn less than $10,000 and, therefore, the SINB denominator is markedly larger than for FINB. As shown in Table 10, SINB grants would increase enrollments by about 100,000 students more than FINB grants; and, for the same amount of additional public funds, the cost per additional student is $1,300 less per year.

Table 11 shows the estimated average grant per student. Under current family income distributions and with $1.6 billion to $1.8 billion additional expenditures, just over 6 million students would be eligible each year and the average grant ranges from $260 to $280, with a high of about $1,000. However, under the assumed student income distribution, but with the same eligibility cut-off at $15,000 maximum income, the number of eligible students increases by about 50 percent to over 9 million; and the grants fall a corresponding 33 percent, averaging between $180 and $190 per person, with a maximum of about $275.

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[13] See *A Framework for Analyzing Postsecondary Education Financing Policies*, pp. 67 and 75-77.

Table 9: Comparative Estimated Enrollment and Financial Impacts of Family and Student Income Need Based Grant Programs, for $1.6 Billion Additional in 1977 and $1.8 Billion Additional in 1980

	Percent Changes from Baseline Enrollment:			
	Family Income Need Based		Student Income Need Based	
	1977	1980	1977	1980
Public 2-Year	-1.08%	-1.16%	-1.25%	-1.35%
Public 4-Year, Lower Division	0.77	0.83	1.21	1.31
Public 4-Year, Upper Division	1.84	1.99	2.74	2.96
Public 4-Year Graduate	0.0	0.0	0.0	0.0
Private Undergraduate	6.61	7.12	10.94	11.82
Private Graduate	0.0	0.0	0.0	0.0
Noncollegiate	5.31	5.71	5.93	6.40
Undergraduate $0-10,000	5.88	6.27	3.76	4.03
Undergraduate $10,000-15,000	0.97	1.03	0.32	0.34
Undergraduate over $15,000	0.0	0.0	0.0	0.0
	Projected Cost Per Additional Student:			
Federal	$3,843	$3,894	$2,513	$2,544
State	197	226	217	252
Local	0	0	0	1
Student or Family	863	1,023	824	977
Private Sources	233	273	251	295
	$5,136	$5,416	$3,806	$4,068

SOURCE: NCFPE staff calculations.

Table 10: Estimated Number of Students, by Income Group, Given An Additional $1.6 Billion in Student Grants in 1977 and An Additional $1.8 Billion in 1980
(In Thousands)

Income Levels	Family Income		Student Income	
	1977	1980	1977	1980
0 - 999	71	75	930	971
1,000 - 1,999	155	164	1,412	1,475
2,000 - 2,999	224	236	2,307	2,408
3,000 - 3,999	342	359	1,599	1,667
4,000 - 4,999	418	438	1,180	1,230
5,000 - 5,999	429	449	723	754
6,000 - 7,499	678	710	451	469
7,500 - 9,999	1,223	1,275	267	278
10,000 - 14,999	2,641	2,754	178	185
15,000 - 24,999	2,009	2,086	89	92
25,000 - over	889	918	44	46
*Total**	*9,080*	*9,464*	*9,180*	*9,576*

SOURCE: NCFPE staff calculations.

*Totals computed separately; columns may not add to total exactly because of rounding.

Table 11: Estimated Average Grant Per Student, by Income Group, Given An Additional $1.6 Billion in Student Grants in 1977 and An Additional $1.8 Billion in 1980

Income Levels	Family Income		Student Income	
	1977	1980	1977	1980
0 - 999	$705	$764	$201	$218
1,000 - 1,999	918	997	254	276
2,000 - 2,999	684	737	166	180
3,000 - 3,999	458	494	124	134
4,000 - 4,999	299	324	98	107
5,000 - 5,999	274	295	82	88
6,000 - 7,499	231	249	67	73
7,500 - 9,999	168	181	52	56
10,000 - 14,999	115	124	37	42
15,000 - 24,999	0	0	0	0
25,000 - over	0	0	0	0
Average Grant	*$259*	*$279*	*$177*	*$191*

SOURCE: NCFPE staff calculations.

With the grant pattern shown in Table 11 one might assume that FINB grants ranging up to $1,000 and averaging $280 should have a greater impact on access than SINB grants ranging up to $275 and averaging $190. From an individual's point of view, this assumption would appear reasonable: a larger student grant would increase the likelihood that an individual would attend a postsecondary educational institution. However, the average grant awards shown in Table 11 would be applied to the very different income distributions shown in Table 10. While the average SINB grants range from one-fourth to one-third of the average FINB grants by income level, SINB grant recipients with below $6,000 income are approximately two to ten times as numerous as the same category of FINB recipients. In other words, under SINB, a smaller grant is available to a larger, low-income (and, therefore, more price responsive) population; SINB grants thereby have a greater effect than FINB grants.

In summary, $1.8 billion in additional student grants would probably increase 1980 undergraduate enrollments by about 3 percent. Distributing these grants on the basis of student income, as approximated by our assumed distribution, would have a greater effect (a 3.9 percent increase in enrollments) than distributing the same dollars on the basis of family income (a 2.7 percent increase).

III.

STUDENTS' RESIDENCY V. PARENTS' RESIDENCY

With the lowering of the age of majority to 18, another important public policy question is, what happens if students may easily establish legal residence independent of their parents' declared residency?

Traditionally, a majority of collegiate students have attended institutions in the states where their parents are domiciled. In the 1960s less than 20 percent of collegiate enrollments were classified as out-of-state; no comparable figures are available for noncollegiate enrollments by student residence.[14] According to data on residence and migration of students collected in 1968 by the National Center for Educational Statistics (NCES), 83 percent of undergraduates and 77 percent of graduates went to institutions in the states where they were considered residents. Of the first-year students working toward medical, dentistry, and other professional degrees, 66 percent went to institutions in their home states.[15] According to Robert F. Carbone's analysis of Fall 1968 migration, approximately 334,000 undergraduate students and 110,000 graduate and professional students enrolled in out-of-state *public* institutions.[16]

The small nonresident group, however, has paid a high price for its choice of institution and location. Over the past decade, while the price of attending a collegiate institution has gone up more rapidly than per capita income has,[17] the most notable increases in tuition were those charged out-of-state students by public institutions. In 1973, nonresidency tuition and fees ranged from an additional $350 above in-state tuition and fees (at Alabama A&M and University of Maryland, Eastern Shore) to $1,000-$1,896 (at the University of Michigan).

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[14] Data on out-of-state students are not fully accessible. For one thing, institutions may collect information about residency at the time of admission; but they may not collect the same information at each succeeding registration.

[15] George H. Wade, Residence and Migration of College Students, Fall 1968, NCES Analytic Report.

[16] See Robert F. Carbone, "Is the Nonresident Student Being Treated Fairly?", College Review, no. 76 (Summer 1970), pp. 22-23. See also Robert Carbone, Resident or Nonresident?: Tuition Classification in Higher Education in the States (Denver, Colo.: Education Commission of the States, 1970). Carbone lists 901,708 undergraduates; 52,610 professional; and 172,587 graduate students (a total of 1,126,905) migrating to both public and private institutions.

[17] U.S. Office of Education, Trends in Postsecondary Education (Washington, D.C.: Government Printing Office, 1970), p. 100. Between 1960 and 1970, per capita income rose by an average annual rate of 5.8 percent while average tuition and fees rose by about 7 percent each year.

Several institutions now charge nonresident students a level of tuition approximately equal to the institutions' estimated cost per student for "education and general" expenses. For instance, on this basis, the University of California charged $1,500 in tuition and fees in 1973, and the University of Colorado charged $1,366.[18]

The apparent purpose of such high rates for nonresidents is not only to increase revenue but also to discourage large numbers of out-of-state students from enrolling. At the same time, however, several states are attempting to mitigate the effect of high nonresident tuition through bilateral and multilateral exchange agreements.[19]

The legality of charging out-of-state tuition based on residency has been tested in the courts numerous times since the 1920s. But as yet, no definitive decision has been made. The challenges to the out-of-state tuition mechanism have generally been based on two court cases (*Shapiro* v. *Thompson* and *Dunn* v. *Blumstein*). Minimum requirements related to eligibility for welfare were tested in the case of *Shapiro* v.

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[18] Data from the National Association of State Universities and Land-Grant Colleges, "Undergraduate Student Tuition and Fees, 1973-74: State Land Grant Universities," mimeographed.

It is interesting to note that the University of Michigan, fearing that the *Vlandis* v. *Kline* decision (described below) might force a change in residency rules, which in turn might put its budget into the red, decided to raise its tuition about 24 percent and make graduate teaching assistants pay out-of-state tuition for the first time. But as it turned out, the university ended up with $3,750,000 more than expected. They had to decide what to do with the sum: $2 million was put into student aid and stipends for graduate teaching assistants; the rest was to be returned to students in the form of a tuition rebate.

[19] In "Resident or Nonresident?", Carbone presented a selected list of the agreements in effect by 1970, including: the Kansas-Missouri Agreement for Exchange of Students on Resident Fee Basis (enabling Missouri students in selected programs, such as agriculture, nuclear engineering, and space science, to enroll in certain Kansas postsecondary institutions); and the Southern Regional Education Board Regional Exchange Programs (in operation over 20 years and enabling a state that does not offer a certain type of training to send its students to a state that does).

Thompson (1969). The plaintiffs were persons who had moved to Connecticut, Pennsylvania, and the District of Columbia and applied for welfare without fulfilling the one-year residency requirements. The defendants (the states) argued (1) that durational requirements discouraged indigents from entering the state solely to receive higher welfare benefits; and (2) that residency requirements assist in preserving fiscal integrity. The court struck down these arguments, ruling in favor of the plaintiffs. In the case of *Dunn* v. *Blumstein* (1974), making the right to vote contingent upon certain residency requirements was challenged. The court ruled in favor of Blumstein, who had moved into the state of Tennessee and attempted to register to vote in an upcoming election. In both residency cases, the courts ruled that durational requirements imposed an unconstitutional limitation on the right to travel, a right guaranteed by the 14th Amendment to the Constitution.

However, in several cases that tested student residency on the basis of these residency decisions on welfare payments and voting rights, the courts have come down on the side of the states. In *Kirk* v. *Board of Regents of the University of California* (1969) and *Starns* v. *Malkerson* (1970), the courts ruled that welfare involved the "preservation of life and health," but university attendance did not. Therefore, residency with the intent of charging out-of-state tuition was not a deterrent to, but only a penalty against, interstate travel Even though the Supreme Court refused to hear the first of these cases, it upheld both decisions, thereby allowing institutions to set one-year residency requirements for eligibility for in-state tuition. But in 1973, the Supreme Court set an important precedent in *Vlandis* v. *Kline*, holding that a state (Connecticut in this case) cannot "deny an individual the opportunity to present evidence that he or she has become a bona fide resident entitled to in-state rates, on the basis of a permanent and irrebuttable presumption of nonresidence." The Justices' majority opinion held that the due process and equal protection clauses of the 14th Amendment had been violated when Connecticut set its definition of a student's residency at the time of application for admission and did not provide for any change in the status over the years the student spent in the Connecticut state university system.

In his dissenting opinion in *Vlandis*, Chief Justice Burger, joined by Justice Rehnquist, wrote:

> The pressure of today's holding may well push the States to enact reciprocal statutes to the end that Connecticut will undertake to admit as "resident" students only those students from other States that give the same status to Connecticut residents. When a State allocates a large share of its resources to create and maintain a university whose quality is found attractive to many students from the states, its very success and stature may well operate to cripple it because then, not unnaturally, it will be flooded with applications from students from afar.

The two questions implicit in Burger's opinion are: how would student demand be changed by eliminating out-of-state tuition differentials, and what would be the additional costs to public institutions both in lost revenues and in accommodating additional enrollments? The question of student demand has been addressed in a previous staff report[20] and will not be discussed further here. Also, since the question of institutional cost-per-additional student has been addressed in the final report of the National Commission, it will not be discussed.[21] The remaining question is the loss in revenues from out-of-state students.

It is difficult to estimate accurately the potential loss to institutions in tuition revenue if out-of-state charges are ruled illegal. Important work in this analytical field is being done by Robert Carbone, who plans to publish a study on the residency issue in August 1974. Previously, Carbone has estimated that between $125 and $300 million in out-of-state income for public collegiate institutions would be lost.[22] This loss is a small portion of a total expenditure by public institutions of nearly $16.5 billion in 1971-72. With only 10 percent of the students in public postsecondary education enrolling from out-of-state, the financing impact of eliminating the out-of-state tuition differential would be relatively small. A $25 to $50 tuition increase would offset the lost revenue.

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[20] See A Framework for Analyzing Postsecondary Education Financing Policies, Chapter 3 and Appendixes.

[21] See Financing Postsecondary Education in the United States, Chapter 8.

[22] Robert F. Carbone, "Is the Nonresident Student Being Treated Fairly?", College Review, no. 76 (Summer 1970), pp. 22-23.

However, loss of tuition income would not be the only social cost that would result from the students' right easily to establish their own legal residency status separately from their parents. Another cost might be a greater cleavage between exporting and importing states and institutions. Even without a change in the residency requirements, the states with the highest percentages of students remaining in their home states have been California, Texas, Utah, Louisiana, and Michigan.[23] Those with the lowest percentages of home-state enrollments were Alaska, New Jersey, Delaware, New Hampshire, the District of Columbia, Hawaii, Maine, and Nevada. The exporter states tend to lose their talented students; for instance, according to data from the American College Testing Program studies of entering freshmen (1965-66 and 1968-69), students who crossed state borders had higher ACT Composite Scores than students who attended colleges in their home states.

IV.

SUMMARY OBSERVATIONS

The 26th Amendment to the Constitution may have nudged the dominoes of prescriptions and restrictions on the 18-21 age group enough that they will continue to fall one by one. Section 1 of the 26th Amendment reads: "The right of citizens of the United States, who are eighteen years of age or older, to vote shall not be denied or abridged by the United States or by any State on account of age." As of March 1974, thirty-nine states had granted not just the right to vote but full adult status to 18-year-olds, and three states, to 19-year-olds.[24] Florida, for instance, passed a law effective July 1, 1973 that reads: "The disability of nonage is hereby removed for all persons in this state who are 18 years of age or older and they shall enjoy and suffer the rights, privileges and obligations of all persons 21 years of age or older."

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[23] George H. Wade, Residence and Migration of College Students, Fall 1968, NCES Analytic Report.

The coming of age of collegiate youth is viewed with some trepidation by public policy makers concerned with financing postsecondary education. This paper has shown that the financial implications of 18-year-old adulthood are minimal. Using a student's own income (instead of his or her parents' income) and traditional criteria on financial need, one finds a dramatic increase in *unmet* student financial need. However, distributing student grants on the basis of student income produces equal or better student access than the same amount of student grants distributed on the basis of parental income. In other words, if access is truly the purpose of student grants, distribution procedures based on student income should be preferred to those based on parental income.

Similarly, the financial effect of 18-year-old independence on student residency and, consequently, on out-of-state tuition revenues is also small. The amount of money involved is less than 3 percent of state appropriations (which have grown 25 percent in the past year) or one year's average growth in tuition revenues. The elimination of an out-of-state tuition differential would be a real loss of income, but the loss could be easily offset by small changes in other revenue sources.

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[24] These states confer rights to 18-year-olds: Arizona, California, Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri (only to enter contracts and borrow money to defray postsecondary education expenses), Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York (only for purposes of contract and voting in school district elections), North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina (if voters in the November 1974 election approve the legislature's proposed constitutional amendment), South Dakota, Tennessee, Texas, Utah (for women 18), Vermont, Virginia, Washington, West Virginia, and Wisconsin. These states confer majority to 19-year-olds: Alaska, Nebraska, and Wyoming.

As many people have noted, the *in loco parentis* role of postsecondary educational institutions is slowly being discarded. But the likelihood of a nationwide new age of majority--down from 21 to 18--portends that the *in loco parentis* role will be cast away forever. "The nineteenth-century college," according to Christopher Jencks and David Reisman in The Academic Revolution, "was in many ways a logical extension of the nineteenth-century family." And in the twentieth century, the trappings of dorms, deans of students, and administration-subsidized and controlled student newspapers remain as reminders to students that they are not of age. But even these vestiges of the old regime may soon totally wither away.

We now come full circle to recognize that the increasingly-shared broad view both of adults and of their participation in postsecondary education has major implications for the mechanisms and procedures for financing postsecondary education. However, as we have shown, the changes in cost to the public and in the achievement of student access and choice will be affected very little by 18-year-old financial independence associated with 18-year-old adulthood. Those who believe in the benefits of treating all participants as adults without age-based and artificial distinctions should be aware that the additional financial costs of 18-year-old adulthood are small.

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Paper 3

A SUMMARY AND ANALYSIS OF THE NATIONAL COMMISSION'S SURVEY OF NONCOLLEGIATE INSTITUTIONS

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Paper 3

A SUMMARY AND ANALYSIS OF THE NATIONAL COMMISSION'S SURVEY OF NONCOLLEGIATE INSTITUTIONS

Often, postsecondary education in America is perceived as an activity that occurs only at certain times in one's life (between the ages of 18 and 24), in certain institutional settings (colleges and universities, preferably ivy-covered), at certain times of the day (between the hours of 8:00 a.m. and 4:00 p.m.) and in certain traditional formats (students arranged in rows in classrooms, with a professor at the podium). Having accepted this widely publicized view of postsecondary education, a number of major national study commissions on trends in post-compulsory education often focus on colleges and universities alone. Thousands of other postsecondary educational or quasi-educational institutions have traditionally been viewed as only peripheral activities and have thus been excluded from most national analyses.

By recognizing a broad range of educational enterprises as integral parts of postsecondary education, the historic enactment of the 1972 Education Amendments expanded our frame of reference. But the lack of information for identifying the size and shape of the noncollegiate enterprise has been a serious obstacle to policy makers. Since 1972, policy makers have been able to do little more than recognize the existence of noncollegiate institutions.

To formulate policy decisions, it is important to understand the role of noncollegiate institutions in the system of postsecondary education and in the economy. This understanding requires more comprehensive data about the noncollegiate sector--its students, programs, and financing.

The National Commission on the Financing of Postsecondary Education (NCFPE) thus surveyed the noncollegiate sector in the summer of 1973, and this report presents its findings. The survey sample was drawn from the universe of 11,000 noncollegiate institutions--accredited and unaccredited--listed in the U.S. Office of Education's preliminary compilation of the 1972 Postsecondary Vocational School Directory. In addition to its own survey, the Commission was fortunate to gain access to two unpublished sets of data: the Carnegie Commission's survey on proprietary, vocational, and trade schools; and the Federal Trade Commission's regional office investigative studies of proprietary and vocational schools.

Four broad categories of questions guided the Commission's survey and this report:

(1) What are noncollegiate schools like? How many are there? How are they financed?

(2) Who goes to noncollegiate schools?

(3) What courses are offered? How many hours of instruction are provided? What are the costs of instruction?

(4) How many students complete these courses? As a result of the school's program, were the students gainfully employed?

I.

SOME CURRENT RESEARCH EFFORTS

Educational researchers have so far been able to gather data only on particular segments of the noncollegiate enterprise. No studies exist that array data about the total noncollegiate enterprise. Studies of noncollegiate institutions published to date specifically focus on either proprietary schools in a particular geographic region or a group of institutions recognized by a single accrediting agency. These partial studies do not treat noncollegiate institutions as equal and viable competitors to collegiate institutions.

Probably the first study to call public attention to the noncollegiate sector as a distinct entity was Classrooms on Main Street (1967) by Harold F. Clark and Harold S. Sloan. But this study only covered a small sample of profit-making vocational and trade schools.

A second well-known study, Private Vocational Schools and Their Students: Limited Objectives, Unlimited Opportunities (1968) by A. Harvey Belitsky, presents the first in-depth study of a large sample of schools--

covering their size, course offerings, tuition levels, and hours of operation. Belitsky compiled his data from questionnaires sent to trade/technical, business, cosmetology, and barbering schools. He reported that in 1966, about 7,000 proprietary schools served approximately 1.5 million students as compared to an estimated enrollment of 1.4 million in two-year colleges in that year. But the study is confined to those institutions (only proprietary schools) that are members of the National Association of Trade and Technical Schools.[1] No empirical data were collected from nonprofit, public vocational, and correspondence schools. The study did make some significant pioneering efforts through systematic data collection, however.

At about the same time, Ken Hoyt reported the findings of his five-year Specialty-Oriented Student (SOS) study. Hoyt gathered some useful data on student characteristics, such as age, sex, race, and income distributions; educational attainment; and ability. Data on 3,800 students were included. But the Hoyt study covered only eleven private business colleges, mainly in large cities; little in the way of institutional data were collected. The response rate was less than 28 percent.

One of the most recent studies is H. H. Katz's A State of the Art Study on the Independent Private School Industry in the State of Illinois (1973). Katz analyzes the philosophy, types, methods of teaching, and management of proprietary schools. Although limited to Illinois schools, the study contains fairly comprehensive information.

During the past two years, in response to a growing national awareness of the importance of noncollegiate vocational schools, the federal government has commissioned a few studies. There are three rather significant ones. (1) The Inner City Fund Study (1972), supported by the Department of Health, Education and Welfare and prepared by Erikson and others, provides a descriptive analysis of seventeen proprietary business schools. (2) The American Institute for Research Study, commissioned by the U.S. Office of Education (1972), reports some useful information but suffers from problems of methodology: private nonprofit institutions were grouped together with public vocational schools so that a comparative analysis of different types and control of institutions was meaningless. The proprietary school sample, furthermore, was heavily weighted with commercial and business schools. (3) A Berkeley study, currently underway, is being carried out by Wellford W. Wilms with funds from the National Institute of Education. The study has two stages: an analysis of the characteristics of 1,300 students enrolled in proprietary and public schools; and a follow-up study of 3,400 graduates of these schools, particularly their postgraduate success in finding jobs.

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[1] Total NATTS membership was about 150 schools in 1966.

However, none of these studies has been able to establish comprehensive data encompassing all types of noncollegiate institutions. In most cases, out of all 11,000 such institutions, only a few proprietary schools have received research attention. And while containing some important data on students, these studies fail to examine important institutional issues like financing patterns. The National Commission's staff study attempts, then, to go beyond these studies--by drawing its institutional sample from the universe of almost 11,000 noncollegiate schools and looking at both student and institutional characteristics

II.

EXPLORING THE UNKNOWN: AN OVERVIEW OF NONCOLLEGIATE INSTITUTIONS

About 11,000 noncollegiate institutions--public and private, accredited and unaccredited--offered instructional programs in 1972. Schools offering on-campus instruction enrolled an estimated 2.1 million students,[2] almost as many as enrolled in the nation's 1,400 private collegiate institutions that same year. These noncollegiate institutions had revenues over $2.6 billion and spent $2.5 billion. Moreover, the 650 schools that offer only correspondence courses may have enrolled as many as 1.5 million additional students, and they

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[2] This revises the estimate of 1.6 million students reported in Financing Postsecondary Education in the United States (Government Printing Office, December 1973).

transacted an unestimated volume of business. In short, noncollegiate postsecondary education is a significant segment of the total postsecondary education enterprise.

What are the noncollegiate schools like?

The U.S. Office of Education classifies noncollegiate schools in nine types of institutions and three modes of operation or control. The number of institutions in each classification is shown in Table 1. To develop a manageable survey within the limited time available, the National Commission combined some of the institutional types. (See Appendix A for a description of the survey methodology, and Appendix B for a definition of terms used in the NCFPE survey.)

Because survey responses by correspondence schools provided data that were not reliable, references throughout the rest of this report are to schools with on-campus instruction only, unless otherwise noted.

The NCFPE survey indicates that, overall, more than half of the institutions have enrollments of less than 50 students. (See Table 2.) The NCFPE survey found that more than half of the total 2 million noncorrespondence students are enrolled at noncollegiate institutions of less than 500 enrollments. (As Table 3 indicates, the Carnegie Commission, surveying proprietary schools alone, reported that about 45 percent of the surveyed institutions had enrollments ranging between 100 and 499 and about 27 percent of the students were enrolled in institutions with less than 50 students.)

Public sector enrollments are significantly larger than private sector enrollments--an average of over 800 students per institution versus less than 150. Among public institutions, more than half have enrollments of more than 500 students; and over one-half of the students are enrolled at institutions of less than 500 total enrollments. (See Appendix D, Table 2.)

In the private sector, according to information collected by NCFPE, 50 percent of the private noncollegiate schools have more than 50 students; data from the Carnegie Commission show that 73 percent of them had enrollments greater than 50. Both surveys indicate that the overwhelming proportion of students are enrolled in private noncollegiate institutions with more than 100 students--79 percent in the NCFPE survey

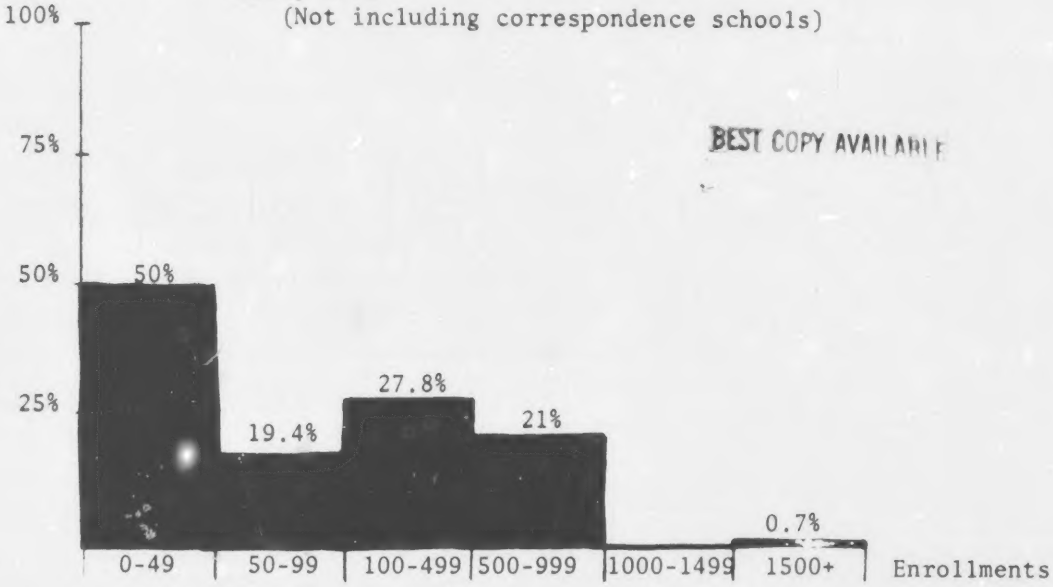
Table 1: A Comparison of USOE and NCFPE Classifications for Noncollegiate Institutions, 1972

U.S. Office of Education Classifications			NCFPE Survey Classifications			
Type #	Type Name	# Insts.	Type #	Type Name		# Insts.
1	Technical Institutes	362	1		-Public*	176
			2	Technical Institutes & Trade Schools	-Profit*	1,125
2	Trade Schools	1,081	3		-Nonprofit*	142
	Subtotal	*1,443*				*1,443*
3	Business/Commercial	1,679				
4	Cosmetology	2,444				
5	Flight	1,880	4	Business, Cosmetology,	-Public	732
			5	Flight, Hospital, Technical/	-Profit	6,981
6	Hospital	1,266	6	Vocational & Other Schools	-Nonprofit	1,243
7	Technical/Vocational	1,422				
8	Other	265				
	Subtotal	*8,956*				*8,956*
9	Correspondence	155	7	Correspondence (All Private)**		650
	TOTAL	*10,554*		*TOTAL*		*11,049*

*R. A. Fulton of AICS has referred to these three types of control as "tax consuming," "taxpaying," and "tax avoiding," respectively.

**The NCFPE Correspondence School Classification includes the schools classified as Correspondence Schools by USOE plus 495 unaccredited schools identified for NCFPE by the National Home Study Council.

Table 2: Distribution of Institutions, by Institutional Size, 1972
(Not including correspondence schools)



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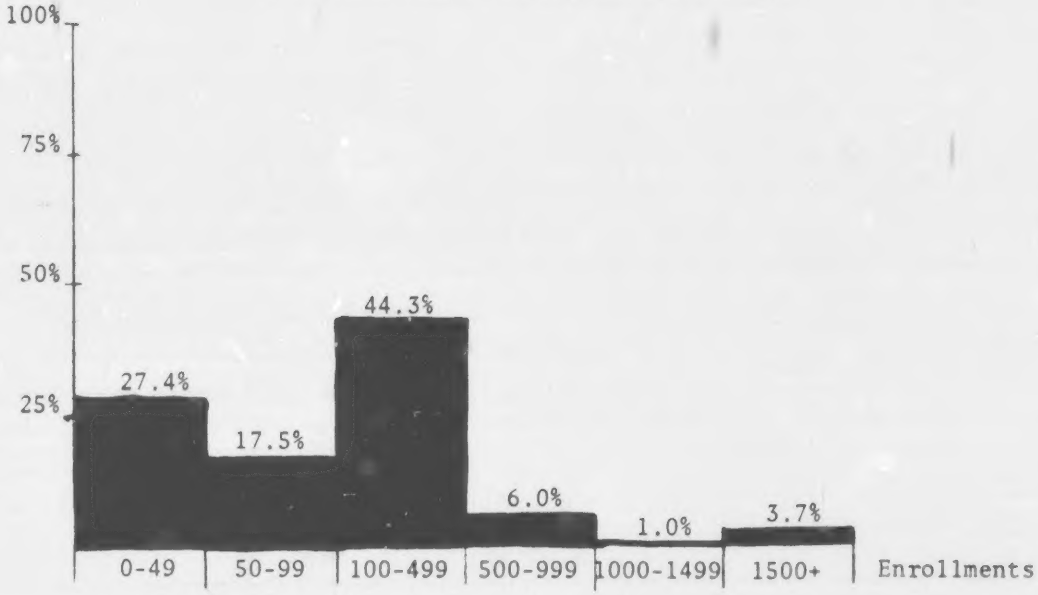
SOURCE: NCFPE Survey of Noncollegiate Institutions.

Table 3: Carnegie Distribution of Institutions, by Institutional Size, 1972
(Not including correspondence schools)



SOURCE: Carnegie Commission Survey of Private, Trade, Technical, Business, Specialized, and Vocational Schools and Colleges, 1972.

and 97 percent in the Carnegie survey. That the two studies have significantly different findings may be the result of the divergent methodologies of each survey.

As for projecting enrollments, information is available from the Carnegie survey--but only for private noncollegiate institutions. Table 4 arrays three kinds of figures: the actual change in enrollments from 1968 to 1972; the percentage change in actual enrollments from 1972 to 1975; and comparable figures for community colleges. It is important to note, however, that the Carnegie survey was not a random sample, so that the data on private noncollegiate schools may not be representative. Moreover, unlike the projected changes listed for the community colleges, which were based on mathematical estimates for a whole universe, figures for the noncollegiate schools were derived from enrollment estimates supplied by individual schools. These data limitations suggest that the projected changes for noncollegiate institutions might be optimistic; interestingly, the schools themselves are projecting a significantly decreased rate of growth.

Table 4: Enrollment Trends in Proprietary Schools, 1972

	Percentage Change in Enrollments	
Type	Actual 1968-72	Projected 1972-75
Private Noncollegiate	+58.7	+36.6
Community Colleges	+128.3	+28.2

SOURCE: Adapted from the Carnegie Commission Survey of Private, Trade, Technical, Business, Specialized and Vocational Schools and Colleges, 1972; U.S. Office of Education, Projections of Educational Statistics to 1981-82, 1972.

On an annual basis, the projected rate for private noncollegiate schools is about 11 percent compared to the actual annual rate of little more than 12 percent (from 1968 to 1972). The data on actual changes in enrollments of all proprietary institutions surveyed by Carnegie indicate that the larger schools grew at significantly higher rates than smaller ones did. For example, the 1968 to 1972 growth rate for those with enrollments greater than 1,500 students was more than twice as much as those under 1,500 (see Appendix D, Table 3). Although the larger schools actually grew the most, their projections of future growth are more conservative than those published by the smaller schools. In fact, data show that growth rates were directly correlated to size, but growth projections were inversely related to size.

Who are the students?

Noncollegiate institutions taken as a whole enroll a higher percentage of women than men. Furthermore, the percentage of women students is greater for noncollegiate institutions than for collegiate institutions in general and for two-year collegiate institutions in particular. (See Table 5.)

Table 5: Postsecondary Education Enrollments, by Sex, 1972

Institutions	Percentage Men	Percentage Women
Noncollegiate Schools	48	52
Collegiate Institutions	60	40
Two-year Colleges	58	42

SOURCE: Adapted from U.S. Office of Education, *Projections of Educational Statistics to 1981-82*, 1972; NCFPE Survey of Noncollegiate Institutions; and U.S. Office of Education, *Digest of Educational Statistics, 1972*.

The private sector accounts for the overall greater percentage of women than men in noncollegiate schools. This phenomenon occurs principally in the "business, cosmetology, hospital and other" category--with 57 percent of the total noncollegiate enrollments. These schools offer many programs in occupational fields traditionally chosen by women, such as secretarial, beautician, and nursing courses. Enrollees at the public institutions, especially those offering trade and technical programs, are predominantly male. (For more details, see Appendix D., Table 4.)

Overall, 54.7 percent of students in noncollegiate institutions are between the ages of 18 and 21, a lower percentage than evidenced at collegiate institutions. There is a greater percentage of older students (15.1 percent are over 29) attending noncollegiate institutions than collegiate instititutions. (See Table 6.) These schools seem to attract persons who have been away from school for a while and who want to upgrade their job skills without undertaking a full, traditional academic degree program.

Table 6: Postsecondary Education Enrollments, by Age Group, 1972

Sector	Percentage 18-21 Year Olds	Percentage 21-29 Year Olds	Percentage Over-29 Year Olds
Noncollegiate	54.7	29.8	15.1
Collegiate	61.9	31.6	6.5

SOURCE: Adapted from U.S. Office of Education, Digest of Educational Statistics, 1972 and NCFPE Survey of Noncollegiate Institutions.

Interestingly, in the private sector, it is the women in business/commercial, cosmetology and health occupation programs who account for the majority of students between 18 and 21. By contrast, 60 percent of the students at public noncollegiate institutions are older than 21, with more than a fourth over 29. (See Appendix D, Table 5.)

Noncollegiate schools also serve a greater proportion of racial minorities than collegiate schools. Table 7 shows the proportions of white and nonwhite enrollments at both collegiate and noncollegiate institutions. Private noncollegiate institutions have a higher percentage of nonwhites enrolled. The respective percentages are 19.2 percent nonwhites enrolled at private noncollegiate institutions as opposed to 17.8 percent at the public ones. (See Appendix D, Table 6.) One explanation for this phenomenon may be the flexibility of course length at private institutions; shorter programs that minimize the time lost from employment are available.

Table 7. Postsecondary Education Enrollments, by Race, 1972

Sector	Percentage White	Percentage Nonwhite
Noncollegiate	81.3	18.7
Collegiate	89.9	10.0

SOURCE: Adapted from U.S. Office of Education, Digest of Educational Statistics, 1972 and NCFPE Survey of Noncollegiate Institutions.

The results of the NCFPE survey show that a large majority of students were enrolled in full-time programs in 1972. (See Tables 8 and 9.) This finding meshes with previous studies. The AIR study

Table 8: Comparison of Full-Time and Part-Time Noncollegiate Enrollments, 1972.

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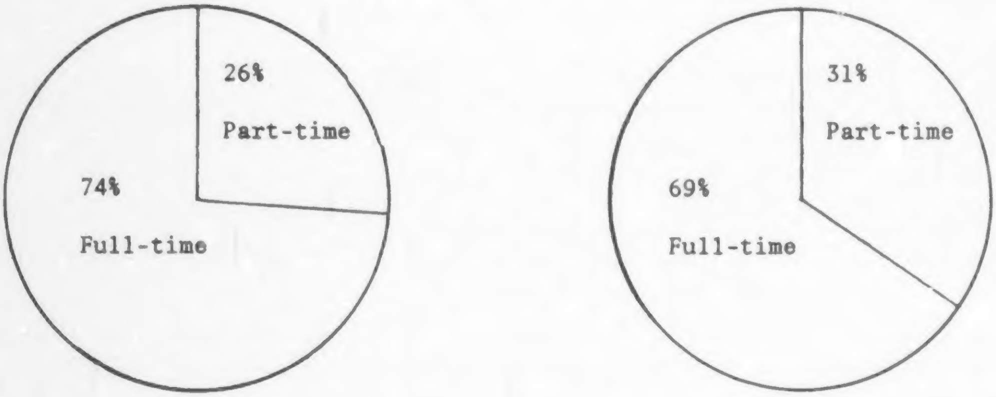
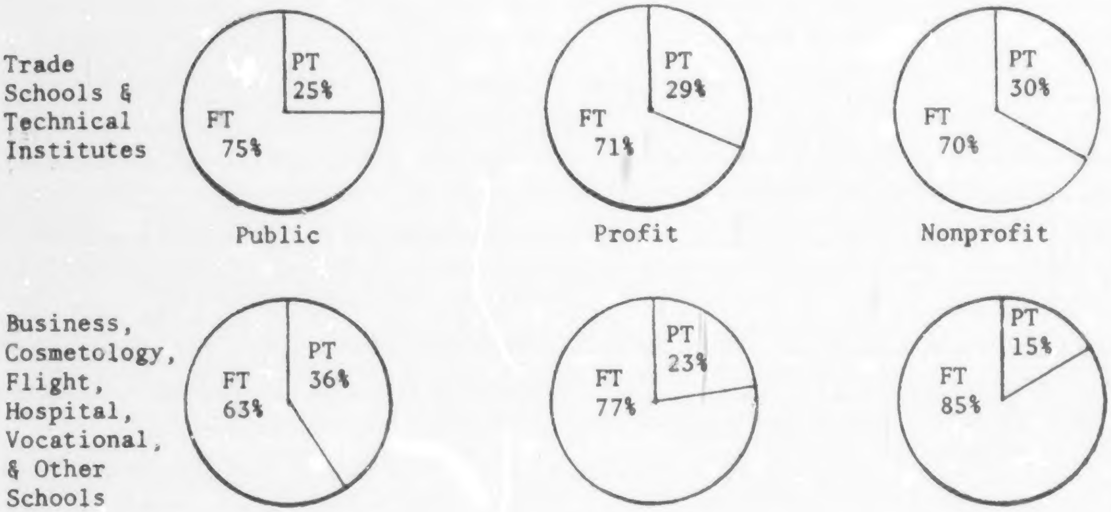


Trade Schools and Technical Institutes

Business, Cosmetology, Flight, Hospital, Vocational, & Other Schools

Table 9: Comparison of Full-Time (FT) and Part-Time (PT), by Institutional Type, 1972



SOURCE: NCFPE Survey of Noncollegiate Institutions, 1972.

for instance, revealed that some 83 percent of the students were full-time. According to AIR's findings, the highest percentage of full-time students (91 percent) was reached in technical schools; and the lowest percentage (71-81 percent) was in the office management and data processing areas. Issues of the Annual Report of Business Schools Accredited by ACBS support these data. Annual reports between 1968 and 1971 show that the size of full-time enrollments has remained at a constant level of 76 percent of total annual enrollments.

III.

NONCOLLEGIATE PROGRAMS: MISSIONS, COSTS, AND EFFECTIVENESS

Educational Objectives

With regard to the purpose or mission of an institution's programs, a distinction can be made between proprietary and public noncollegiate schools. Proprietary schools, for instance, tend to have a single and well-defined mission--specifically, to provide occupational training aimed at placing students in full-time jobs in the shortest time possible. The survival of most proprietary schools depends not only upon reaching this goal but also in training students well enough to be successful on the job. As a result, proprietary schools tend to select students with higher ability and educational attainment than do public noncollegiate schools. Belitsky and others[3] have found that almost two-thirds of the students attending NATTS member institutions are higher ability students and at least hold high school diplomas. Furthermore, over 50 percent of them were in the upper three-fourths of their high school class.

On the other hand, the mission of public vocational and trade schools is not always well-defined, because the enterprise often depends upon the political processes and regulations of state and local governments. In addition, the students enrolling in public noncollegiate institutions are assumed to be more diverse--in ability and educational attainment levels--than those enrolled in proprietary schools. But there are no empirical data available to allow for comparative analyses about the levels of student ability and educational attainment reached in proprietary and public noncollegiate institutions.

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[3] See E. Erikson et al., Proprietary Business Schools and Community Colleges: Resource Allocation, Student Needs, and Federal Policies (Inner City Fund, 1972), p. 8.

The Flexibility of Programs

Another point of comparison between public and proprietary noncollegiate institutions is program flexibility--the time required to complete a full program, the time required in a classroom, and the mixture of course formats (classroom and correspondence). The Inner City Fund Study points out that there has been a marked tendency toward corporate ownership of proprietary schools; still, the curricular programs of proprietary schools have so far tended to be more flexible than public vocational, trade, or business schools. Because proprietary schools respond to changes in market demand, they are sometimes more free to offer short or year-around courses. In a descriptive study of 38 proprietary schools in California, Kincaid and Podesta emphasize this kind of flexibility:

> . . .they [students] could be in classes at once or at least within one or two weeks. There [are] no scheduling problems to cope with, and registration was a simple matter that involved only signing a contract and arranging for payment.[4]

On the other hand, public sector institutions face periodic scrutiny under guidelines imposed by governmental regulations on licensing, accreditation, and eligibility for student aid. As a result, their courses are more standardized.

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[4] H. Kincaid and E. Podesta, An Exploratory Survey of Proprietary Vocational Schools (Palo Alto, California: Stanford Research Institute, 1966).

Diversity of Courses

According to NCES' preliminary findings, a phenomenal number of courses are offered by various types of noncollegiate institutions. The largest number of courses are offered in office management programs in business schools. And a great portion of these courses are dominated by computer-related courses as well as accounting and business management courses (see Table 10).

The Length of the Programs

Programs offered in noncollegiate schools vary in length from two weeks to more than two years, according to the NCFPE survey. Programs in public institutions are generally longer (averaging 15 months) than those in proprietary schools (averaging 13 months). In trying to accommodate the lengths of programs to meet different student needs, the public sector is limited by governmental regulations and guidelines. For instance, some states, like New York and Illinois, issue directives that dictate a standardized requirement for the length of vocational and occupational courses at public institutions.

For the purposes of the NCFPE survey, it was assumed that there was no correlation between full-time enrollment and length of program. That is, full- and part-time students are said to be distributed in the same proportion in programs of different lengths. (The percentage distribution of the average length of the programs are summarized in Table 11.) In previous studies, the only source of data on the distribution of noncollegiate students by length of program was the AIR survey, which found that almost 80 percent of all students are enrolled in courses that last more than six months. (See Table 12.)

Table 10: Number and Type of Curricular Programs Offered by Noncollegiate Schools, 1970-71

Figures without parentheses = number of programs
Figures in parentheses = number of institutions offering the programs

Types of Curricular Programs	Types of Career Schools								
	Voc. & Tech.	Technical	Business	Cosmetology	Flight	Trade	Hospital	Corres-pondence	Others
Agri-business....	36	11	1	0	0	1	0	4	1
	(18)	(6)	(1)	(0)	(0)	(1)	(0)	(4)	(1)
Marketing Distribution..	159	30	228	5	2	15	4	75	3
	(65)	(13)	(97)	(3)	(2)	(12)	(3)	(33)	(2)
Health.........	395	72	56	1	0	2	1,308	6	4
	(144)	(23)	(40)	(1)	(0)	(1)	(927)	(4)	(2)
Home Economics..	86	7	20	0	0	2	2	8	1
	(33)	(3)	(13)	(0)	(0)	(2)	(2)	(6)	(1)
Business and Office........	1,706	139	17,237	0	21	0	83	565	61
	(36)	(19)	(327)	(0)	(1)	(0)	(3)	(15)	(1)
Technical.......	177	108	64	2	24	35	33	74	4
	(85)	(73)	(43)	(2)	(18)	(19)	(27)	(17)	(1)
Trade and Industrial....	702	221	69	154	21	158	4	279	13
	(112)	(63)	(59)	(132)	(13)	(77)	(3)	(33)	(3)

Source: U.S. Office of Education, *Directory of Postsecondary Schools with Occupational Programs*, 1971.

Note: Types of curricular programs include the following: (1) Agri-business Occupations: such programs as agricultural mechanics, ornamental horticulture, and forestry. (2) Marketing and Distribution Occupations: such programs as finance and credit, general merchandise, and retail trade. (3) Health Occupations: such programs as dental hygiene, practical nursing, and physical therapy. (4) Home Economics Occupations: such programs as clothing and textile, food and nutrition, and food management. (5) Business and Office Occupations: such programs as data processing, accounting, and stenography. (6) Technical Occupations: such programs as automotive, electrical, and metallurgical technologies. (7) Trade and Industrial Occupations: such programs as appliance repair, auto mechanics, and body and fender repair.

Table 11: Percentage Distribution of the Average Length of Programs, by Institutional Type and Control, 1972

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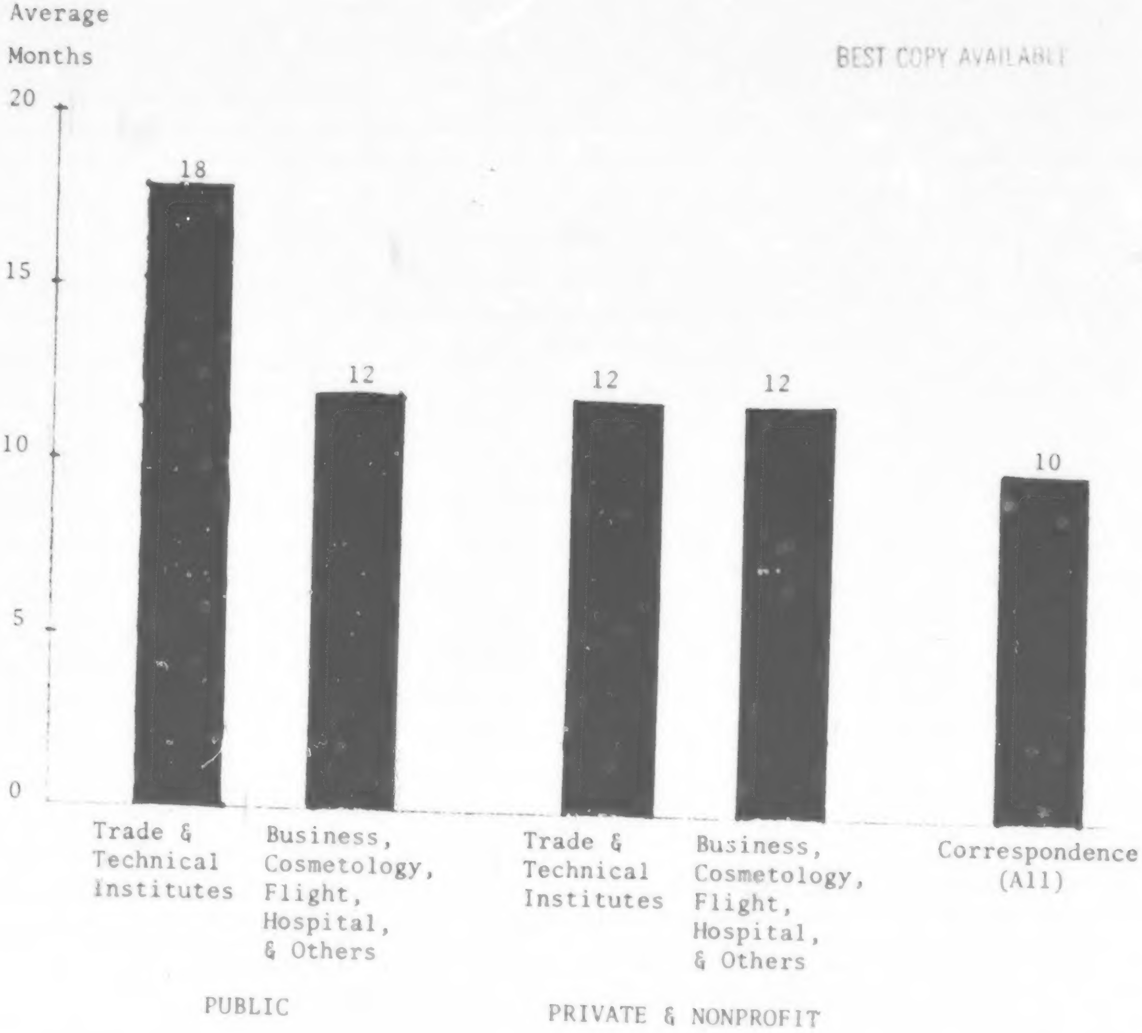

SOURCE: NCFPE Survey of Noncollegiate Institutions.

Table 12: Enrollments, by Course Length, 1972

Program Length	% Part-Time	% Full-Time	Total %
Less than 6 months	4.08	19.92	24.00
More than 6 months	12.92	63.08	76.00
	17.00%	83.00%	100.00%

SOURCE: AIR, A Comparative Study of Proprietary and Nonproprietary Vocational Training Programs, 1972.

Student Costs of Education

To make an accurate and complete estimate of program costs (tuition and fees) is complicated. Most of the differences in costs among various programs depend on the kind of course (whether laboratory, correspondence, or classroom instruction) and the length of time required for its completion. The lowest cost per program is the office management and business curriculum--at about $80 or less per month. This curriculum involves typical classroom instruction; thus, it requires just a flat tuition. If specialized instruction (such as hospital or flight training) is part of the program, the costs would rise significantly above $80.

According to the NCFPE survey, the lowest cost institutions are public trade and technical institutions ($88 per nine-month academic year) and the highest cost institutions are proprietary trade and technical institutions ($1,233 per nine-month academic year). The group of proprietary business, cosmetology, and flight schools is the second highest cost institution. (Table 13 summarizes the NCFPE findings about the relationship between the average cost and length of programs among various institutions.)

Prior to the NCFPE survey, the most complete attempt to estimate program costs was made by the AIR survey. Even though Belitsky inquired about costs in his questionnaire to NATTS members, he did not tabulate

Table 13: A Comparison of Average Length and Average Cost, by Institutional Type, 1972

Type	Control	Average Program Length (Months)	Average Tuition and Fees (By Program)	Tuition and Fees Per Academic Year
Trade Schools and Technical Institutes	Public	18	$175	$88
	Profit	9	$1,233	$1,233
	Nonprofit	13	$868	$601
Business, Cosmetology, Flight, Hospital, Vocational, and Other Schools	Public	12	$196	$147
	Profit	12	$1,218	$914
	Nonprofit	19	$678	$321
Correspondence		10	$470	$423
Total Average	*Public*	*15*	*$186*	*$112*
	Private	*13*	*$1,113*	*$771*
	All	*14*	*$499*	*$321*

SOURCE: NCFPE Survey of Noncollegiate Institutions.

results. The ICF only collected cost data from a very small sample of institutions--twenty Southern business and proprietary schools that might be lower-cost institutions. Most other studies merely settled on one estimated yearly tuition charge (commonly $1,000 per year). The Carnegie Commission survey confirmed that the average annual tuition and fee charges are about $1,100. (Table 14 compares these various findings about costs.)

Effectiveness of Programs

There is a scarcity of literature about judging the effectiveness of noncollegiate schools. Two logical measures of effectiveness are the rate of course completion and the rate of placing students in jobs related to their training.

The Commission survey indicated that, overall, about 51 percent of the students--both full-time and part-time enrollees--completed their trade school and technical institute training. About 88 percent of those who completed their training were placed in jobs. In the case of business, cosmetology, flight, hospital, and vocational institutions, the NCFPE survey revealed that about 45 percent of the students completed their training, and 68 percent of those completing their training were placed on jobs in 1972. (See Table 15.)

Both the 1967 Hoyt study and the 1969 Belitsky report found that more than 70 percent of the students completed the full training program and that a substantial number of graduates were placed in occupations related to their training. (Hoyt cited an 80 percent placement rate; Belitsky, 55 percent.)

Several surveys have asked students why they have chosen a more costly proprietary school when similar publicly financed programs were available in neighboring community colleges. Data from Stanford Research Institute's student survey, for example, show these reasons: (1) flexible enrollment schedules and shorter course length; (2) more concentrated practical subjects; and (3) better placement services. The Hoyt study of 3,300 students indicates that the value of concentrated courses was the major reason for enrolling.

Table 14: Estimates of Average Monthly Costs
A Comparative Table

Source	Year	Monthly Cost	Program Type	Number of Observations	Tuition	Books and Other	Range	Location
ICF Study (4)	69-70		All	NA	$71			U.S.
	71-72	$ 92	Business Skills	One School	$75	$17		South
	71-72		All	20 Schools			$75-200	U.S.
AIR Study (11)	71-72	$187	All	210 programs			$21-557	
	71-72	$200	Health	54 programs			$61-516	
	71-72	$160	Technical	32 programs			$60-344	4 Cities
	71-72	$260	Computer	43 programs			$84-557	
	71-72	$149	Office	81 programs			$21-300	
Katz	70-71		All	NA	$83			Illinois
USBA Placement Project	67-68	$105	Technical	387 Students				7 States
			Computer					
	68-69	$123	Office	431 Students				10 States
Carnegie Commission	72-73	$109	All Business Trade Skills	616 Schools	$109*			8 States

*Included both tuition and other fees

~~100~~

Table 15: Charges and Lengths of Programs, by Size of Institution, 1972

Size of Institution	Approximate Student Charges	Charges Per Course	Charges Per Full-Time Program	Length in Weeks	Charge for Academic Year Equivalent (36 Weeks)	Number of Responses
0 - 49	573	517	800	38	758	169
50 - 99	979	516	1,131	38	1,071	108
100 - 499	1,214	492	1,335	33	1,456	273
500 - 999	1,128	246	1,357	39	1,253	37
1,000 - 1,499	1,807	175	2,160	52	1,495	6
<1,500	436	321	619	48	464	23
All	*980*	*484*	*1,165*	*36*	1,165	*616*

SOURCE: Carnegie Commission Survey of Private, Trade, Technical, Business, Specialized, and Vocational Schools and Colleges, 1972.

Whether or not trained persons tend to have an advantage over untrained persons in eventual earnings and job satisfaction is something that cannot be easily answered by existing data and studies. However, an inquiry into the status of trade and industrial graduates from 100 randomly sampled high schools by Eninger (1965) concluded that vocationally trained graduates tend to gain higher wages and perhaps greater job satisfaction.

IV.

THE NONCOLLEGIATE SECTOR'S FINANCING PATTERNS

A $2.6 Billion Enterprise

The estimated total amount of support--from all financing sources--for the noncollegiate enterprise in 1972, in round numbers, was about $2.6 billion. Of this amount, 48 percent was provided by student charges; 40 percent came from various governmental aid; and the rest came from such sources as auxiliary enterprises (58 percent), and gifts, endowments, and other sources of income (6.3 percent). Just as in the case of collegiate sector financing, financing the noncollegiate sector is a responsibility largely shared by students and their families and by the government at all levels. Philanthropic individuals and organizations assume a minimal role. (See Tables 16 and 17.)

In the noncollegiate sector as a whole, the single largest item of institutional expenditures (52 percent) is instruction. Administration (19 percent) and plant operation (17 percent) are the next highest items of expenditure. (See Appendix D for full tables.)

The major source of revenue for the private schools is student charges (78.1 percent), while the public sector heavily depends on aid from federal and local governments (86 percent).

The case of nonprofit schools is a little different. The results of the NCFPE survey show that in 1972 nonprofit trade and technical institutes drew almost equal proportions of their revenues from student

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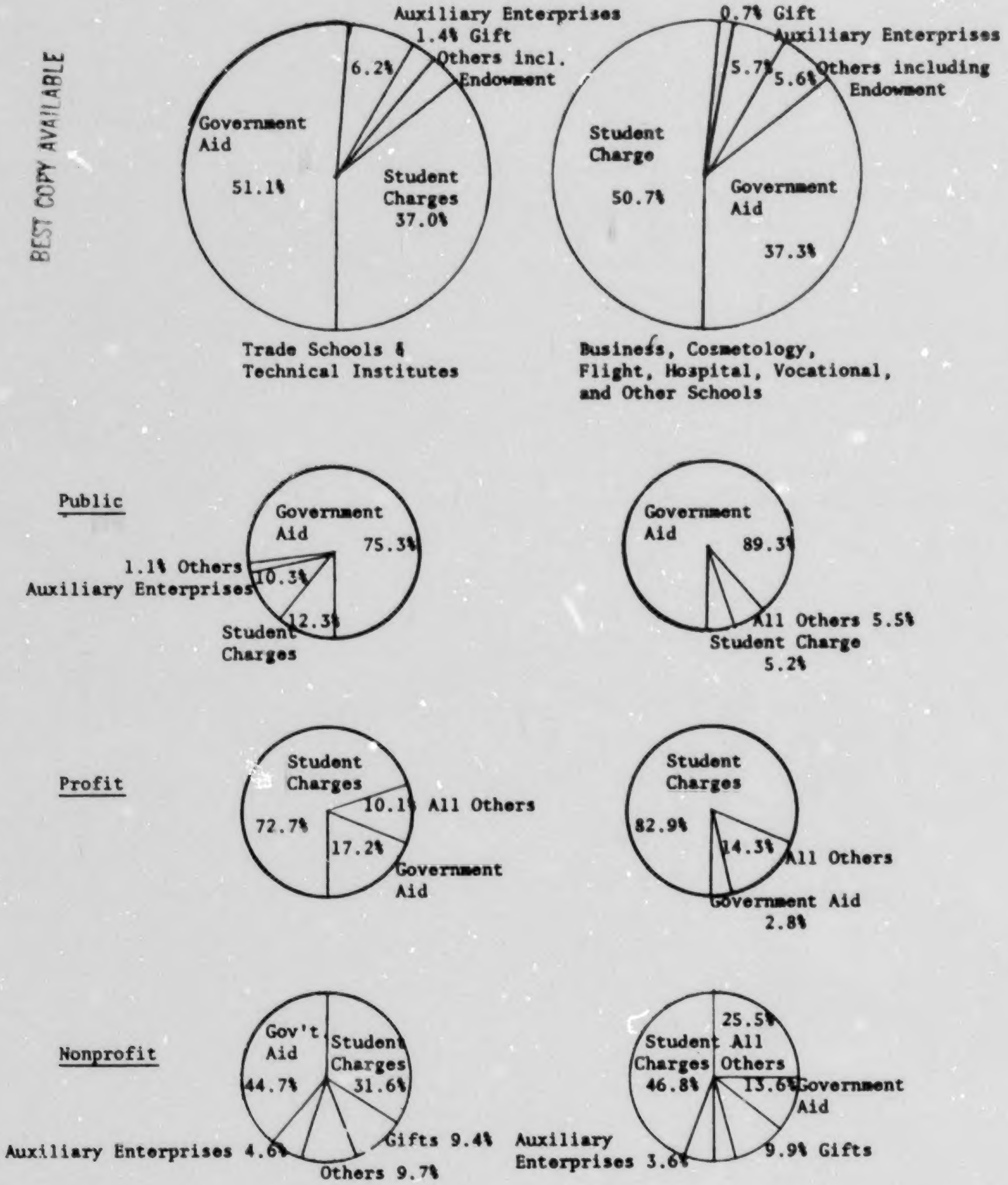
Table 16: Sources of Revenues for Noncollegiate Schools, 1972

An Overall Comparison of Percentage



SOURCE: NCFPE Survey on Noncollegiate Institutions.

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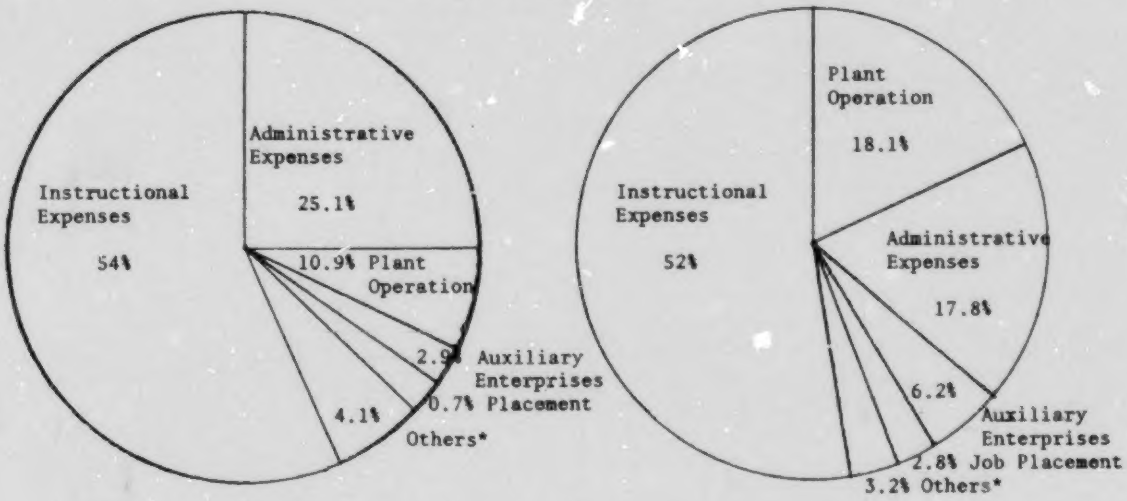
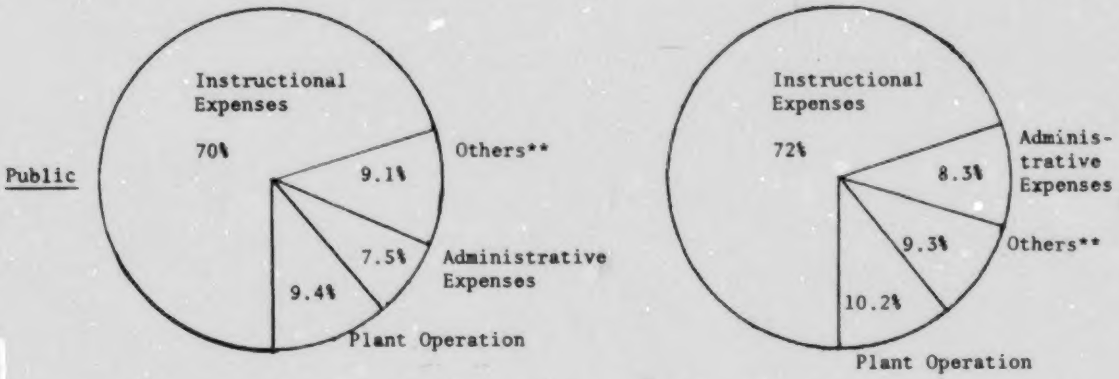
Table 17: Expenditures of Noncollegiate Schools, By Object, 1972

An Overall Comparison



Trade Schools &
Technical Institutes

Business, Cosmetology,
Flight, Hospital,
and Other Schools



*Includes student aid.
**Includes student aid, placement, etc.

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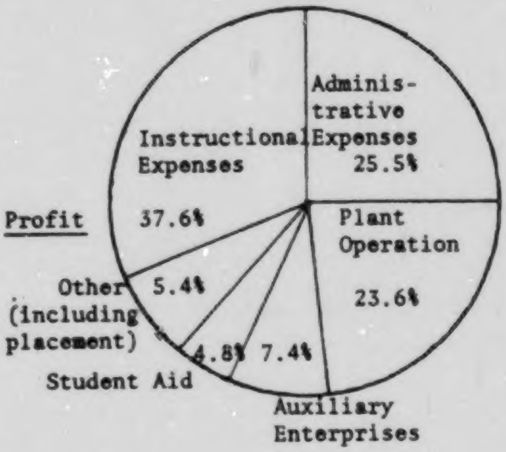
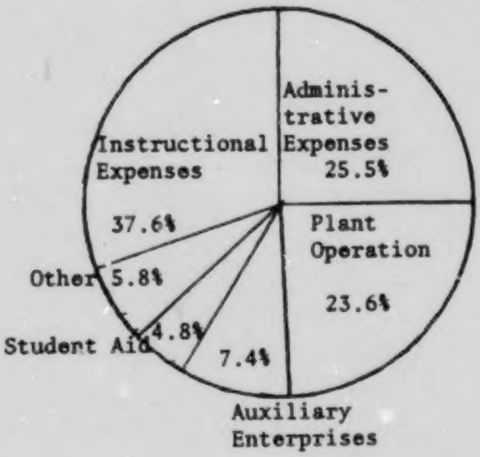
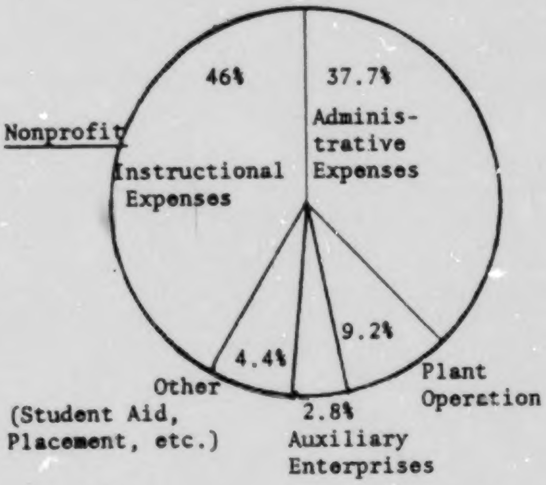
(Table 17, continued)

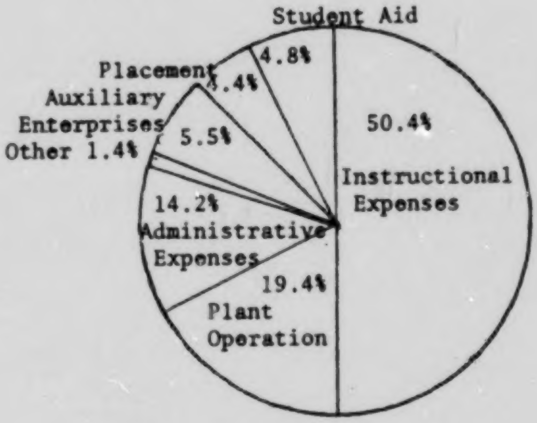




Trade Schools &
Technical Institutes

Business, Cosmetology,
Flight, Hospital,
and Other Schools





SOURCE: NCFPE Survey of Noncollegiate Institutions.

charges (32 percent) and governmental aid (44.7 percent). But nonprofit business, cosmetology, flight, and other types of schools drew about 47 percent of their revenues from student charges and 25.5 percent from "unspecified" sources.

Sources of Financing Education

The few indicators available on the family income level of noncollegiate students indicate that noncollegiate institutions enroll a higher percentage of students from low-income families than collegiate institutions do. The Carnegie Commission study shows that of 410,288 students in proprietary schools in a few representative states about 27.5 percent come from families with below $5,000 income. (See Appendix D, Table 7.) The ICF study estimated that about 50 percent of noncollegiate students have family incomes below $9,000; and a Bureau of Social Sciences Research report (1970) estimated that 50 percent of vocational and proprietary school students have below $7,500 family income. No directly comparable data for collegiate institutions are available; however, data in *Digest of Educational Statistics, 1972*[5] indicate that for first-time students in collegiate institutions, only 12 percent come from families whose incomes are less than $6,000.

The question of how students finance their noncollegiate education has not been handled satisfactorily by any previous studies. Many, like the ICF study and Belitsky's report, looked at this issue superficially, and their analyses are impressionistic. The fact is that the data base is simply not yet available to allow a thorough answer. The results of the NCFPE study cannot answer this question, because the survey was based on an institutional sample rather than a student sample. An extensive student resource survey, comparable to those done by the College Scholarship Service in collegiate sector research, needs to be conducted.

Although the total answer about how students finance their education has not been found, the NCFPE survey allows these two questions to be explored: how many students receive aid and from what sources does the aid come? For example, the data show that students, especially from proprietary schools, make greater use of federally guaranteed loan programs and VA benefits than other sources of student aid. (See Tables 18 and 19.)

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[5] U.S. Office of Education, *Digest of Educational Statistics, 1972* (Government Printing Office, 1972).

V.

A SUMMARY NOTE

Despite the bewildering complexity of American postsecondary education, Sir Eric Ashby says, the "dominant impression is the range of standard and quality."[6] The qualitative diversity among institutions other than the traditional colleges and universities, however, has largely been ignored. Often, there have been confused reports about these schools. One can hear the Horatio Alger version of successful institutions. At the same time, however, many stories rage about "fly by night" institutions. A major cause for such contradictory views has been the lack of comprehensive data about noncollegiate institutions--their students, their programs, and their patterns of financing.

The nature and quality of noncollegiate education has just begun to draw some interest from researchers and education policy makers. Three reasons are behind this new recognition of the importance of the noncollegiate sector. First, there has been a growing assumption that existing postsecondary educational institutions offer few options in learning modes for increasingly diversified enrollments (such as adult learners requiring shorter training periods and women students needing more flexible means of acquiring an education). Second, there is increasing evidence that the present sequential pattern of schooling is not the best one for all youth,

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[6] Sir Eric Ashby, Any Person, Any Study (New York: McGraw-Hill, 1971).

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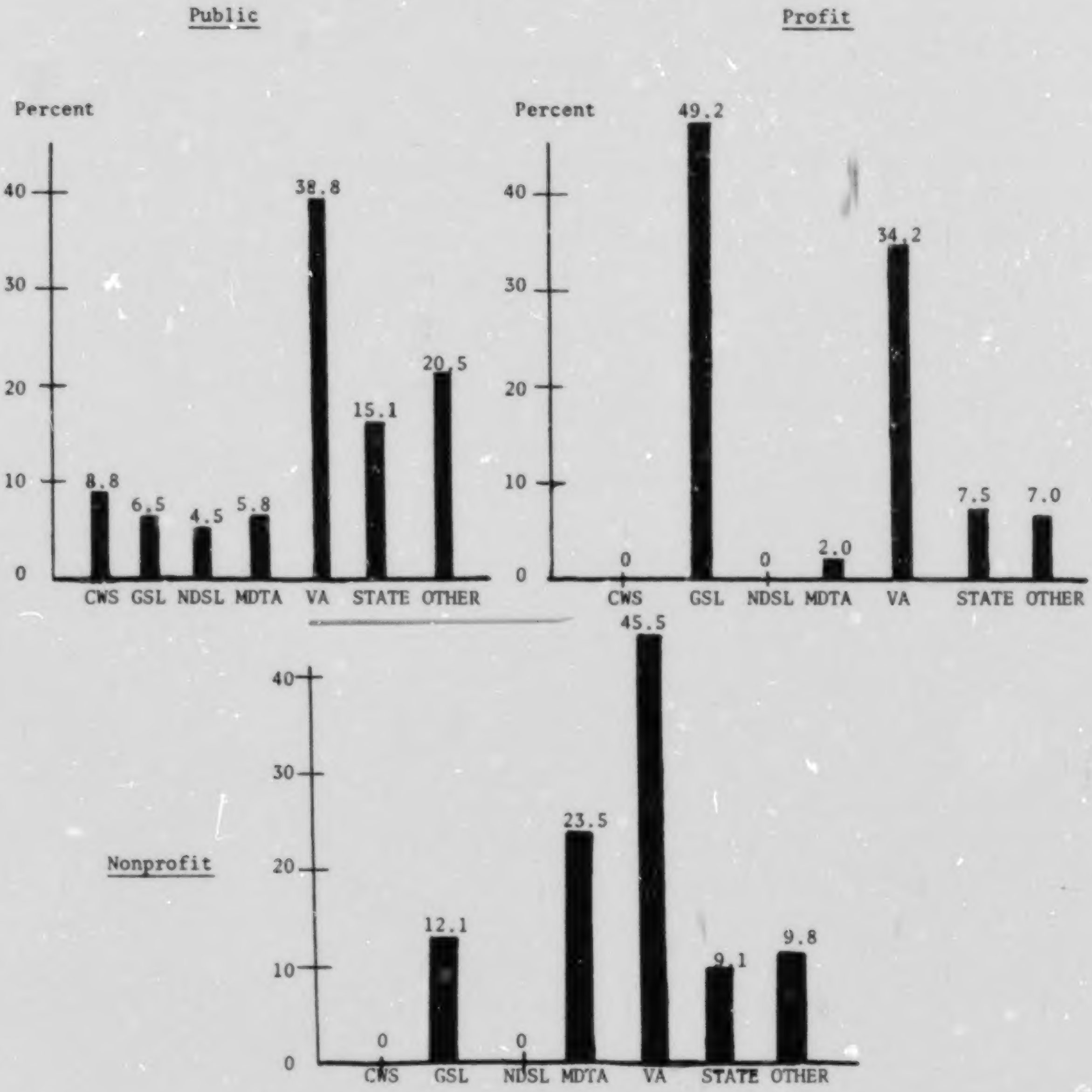
Table 18: Distribution of Student Aid for Trade and Technical Institutes, 1972


Public

Profit

Nonprofit

SOURCE: NCFPE Survey of Noncollegiate Institutions.

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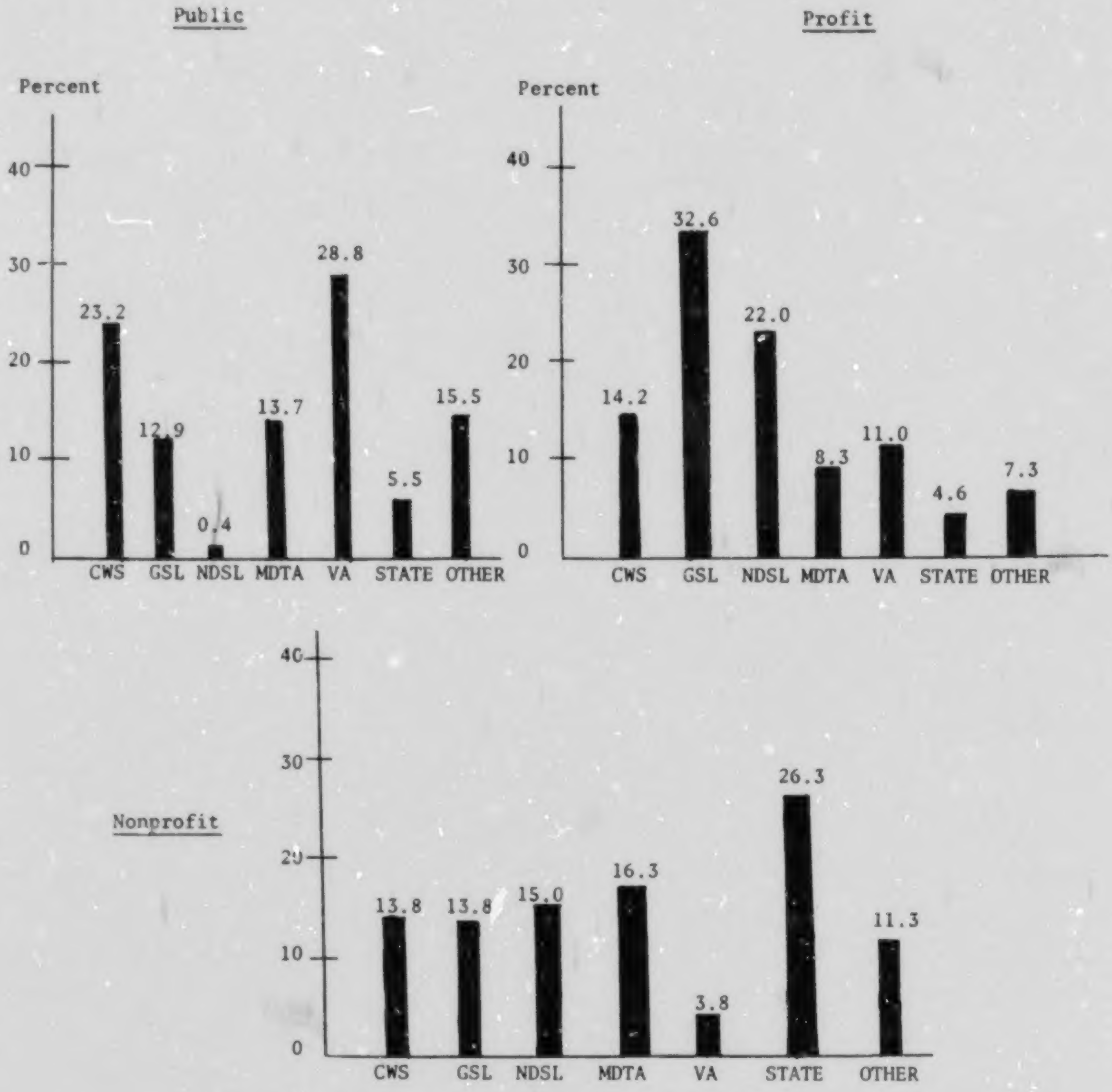
Table 19: Distribution of Student Aid for Business, Cosmetology, Flight, etc. Institutions, 1972



SOURCE: NCFPE Survey of Noncollegiate Institutions.

and perhaps is best for none.[7] Some renowned commissions and study groups have proposed alternative forms, such as "recurrent education," "life long education," and "learning at work." Noncollegiate institutions might become an important source to accommodate some of these alternative patterns. Third, the American society is beginning to be concerned with the weakening relationship between the traditional college degree and employability. The assumption that noncollegiate schools offer employable skills and satisfying placement has attracted increased interest in noncollegiate institutions.

While the importance of noncollegiate education is recognized, objective data available today to encourage the formulation of new social policy are hardly adequate. The National Commission's study is only a beginning for extensive data collection efforts. The NCFPE survey is still far from completion. For example, it contains virtually no information on how students perceive their educational or training opportunities at noncollegiate institutions. Why did they enroll? How did they value their education? And so on. The NCFPE survey also presents some difficult problems in assessing noncollegiate programs and instruction. How effective are individual programs? Can we measure the estimated rate of return on the training investment for graduates? A host of issues can be raised. Therefore, further research in these areas, building upon the NCFPE survey and other methodologies will yield important information for future policy making.

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[7] James S. Coleman, et al., Youth: Transition to Adulthood, Report of the Panel on Youth, 1973.

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APPENDIX A

NCFPE SURVEY METHODOLOGY

Developing the Survey Instrument

In designing the National Commission's survey of noncollegiate institutions, the NCFPE staff carefully studied various other survey forms for proprietary vocational schools, including: the Belitsky survey, the AIR interview form, the Carnegie Commission survey form for proprietary/vocational schools, and the proposed NCES Survey of Postsecondary Career Schools (developed by Robert Calvert and Lynn Kay, Adult and Vocational Survey Branch of the U.S. Office of Education).

The NCES Survey form was particularly useful. The National Commission staff adopted for its survey the NCES Survey institutional classification code; and some of the illustrative program descriptions in the NCFPE survey were taken, with Dr. R. Calvert's permission, from it.

Basically, the NCFPE survey instrument was designed to ascertain the following items:

--The current enrollment (full-time and part-time) of noncollegiate schools;

--Student characteristics (such as sex, race, and age);

--Institutional financing patterns (such as total operating revenues and total expenditures);

--Characteristics of instructional programs (such as lengths; costs; and participation, completion, and placement rates).

See Appendix C for the NCFPE Survey forms.

Pretesting the Survey Instrument

The survey was mailed out July 15, 1973 and the completion deadline was September 30, 1973. Because of the limitations on time available for the study, there was no pretest of the survey instrument. But the staff did examine the results of the NCES pretest of about 160 institutions--in an effort to ascertain consistency of responses.

Selecting the Survey Sample

A sample was drawn from the U.S. Office of Education/NCES preliminary Postsecondary Career School Directory (1972). The Directory contained 11,049 institutions from 9 institutional types and 3 kinds of institutional control (profit, public, and nonprofit). (See Table A-1.)

The staff had to determine a manageable sample size that the Commission could collect before September 30. A sample of 697 institutions was the selected size. To distribute 697 sample schools to 9 different types of institutions would not constitute good representation. Thus, 9 types were collapsed into two types: (1) Trade Schools and Technical Institutes; and, (2) Business, Cosmetology, Flight, Hospital, and Other Schools. Trade schools and technical institutions were combined because they have common characteristics, such as size and program formats. The rest are combined in the second category. Table A-2 shows the derivation of the NCFPE sample out of the universe of 11,049 schools. Dr. Harold Niesselson of the National Center for Educational Statistics drew the random sample for the Commission.

Telephone Follow-Up

About four weeks after the survey forms were mailed out to instituitions in the sample, staff members phoned each institution. A system for logging and filing all information was established. For instance, three full-time staff members listed all institutions in the sample on a master log sheet. Up-to-date information on the status of each school's participation in the survey was recorded and available at all times.

Response Rate

Out of the total sample (697 institutions), 396 (57 percent) of the surveys were returned. Unfortunately, due to key punching problems, only 230 of these responses were key punched. Thus, not all 396 surveys were used for the staff analysis. Table A-3 summarizes an item response rate.

Table A-1: NCFPE Sampling Data on Noncollegiate Institutions, 1972

Type	Control	N*	n*	Ratio N:n
Trade Schools and Technical Institutes	Public	176	35	1:5
	Profit	1,125	75	1:15
	Nonprofit	142	29	1:5
Business, Cosmetology, Flight, Hospital, Vocational, and Other Schools	Public	732	73	1:10
	Profit	6,981	233	1:30
	Nonprofit	1,243	124	1:10
Correspondence		650	128	1:6

SOURCE: NCFPE Survey of Noncollegiate Institutions, 1972.

*Total number of institutions represented in the U.S. Office of Education, Preliminary Postsecondary Career School Directory.

**Sample drawn from the directory numbers.

Table A-2: Derivation of NCFPE Sample Size

Total: 11,049

Instructional Types	Percent
Technical Institutes	3.3
Trade Schools	9.8
Business/Commercial	15.2
Cosmetology	22.1
Flight	17.0
Hospital	11.5
Vocational	12.9
Correspondence	5.9
Other	2.4
Control	
Public	15.2
Private - Profit	70.6
Private - Nonprofit	14.2

SOURCES: U.S. Office of Education, Preliminary Postsecondary Career School Directory, to which 495 unaccredited correspondence schools were added from information supplied by the National Home Study Council; NCFPE Survey of Noncollegiate Institutions.

Table A-3: Item Response Rate for NCFPE Survey

Item	Number	Percent of Total Response*
1. Institutional Finance		
a) Operating Revenues	197	87
b) Operating Expenditures	200	88
2. Student Characteristics		
a) Ethnic Characteristics	205	90
b) Distribution by Age	203	89
c) Student Financial Aid	183	81
3. Program Characteristics		
a) Length - Month/Hours	222	98
b) Student Charges	199	88
c) Full-time Male/Female Part-time Male/Female Head Counts	223	98
d) Number Completing	204	90
e) Number Placed	176	78

SOURCE: NCFPE Survey of Noncollegiate Institutions, 1972.

*Percentage taken from total number of respondents

Key Punching and Data Storage

Key punching in numeric language was carried out; data are stored in DS/3 data retrieval language at Systems Development Corporation in Santa Monica, California. The U.S. Office of Education is the custodian of these data as a part of the NCFPE Data Base.

APPENDIX B

NCFPE SURVEY TERMINOLOGY

Technical or vocational school--A school that exclusively or principally provides occupational education to persons who have completed or left high school and are available for full-time study. Special-purpose schools that offer the following programs are included in this group: airline careers, auctioneering, commercial art, dog grooming, fashion design, floristry, housekeeping, interior design, medical and dental assisting, mortuary science, practical nursing, sea diving, and travel.

Technical institute--An institution offering instruction in one or more of the technologies at a level above the skilled trades and below the professional level.

Business/commercial school--A school offering courses for business occupations, such as accounting, data processing, and secretarial. Special-purpose schools that offer the following programs are included in this group: court reporting, finance, insurance, real estate, and sales.

Cosmetology school--A school offering programs in beauty treatments, such as care and beautification of hair, complexion, and hands.

Flight school--A school offering programs for training as aircraft mechanic, pilot, or work in other technical fields related to aviation.

Trade school--A school offering programs in one or more trades, such as auto mechanics, baking, barbering, bartending, carpet-laying, cooking, dealing, drafting, fireman training, ground maintenance, horseshoeing, laundering, locksmithing, meat processing, photography, police training, polygraph, radio/TV broadcasting, sewing-tailoring, Swedish massage, truck driving, and welding.

(Appendix B, continued)

Correspondence school--A school offering instruction only through the systematic exchange between teacher and student of materials sent by mail. No facilities are available for resident students.

Hospital school--A hospital, sanitarium, or convalescent home offering instruction for medical and paramedical occupations.

Others--Schools or institutions not classified in any of the above groups include schools of modeling, dramatic arts, music, brewing, maritime, and horsemanship; MDTA centers; Job Corps centers; schools for the retarded; vocational rehabilitation schools; and correctional institutions.

Controls

The following terms are used to identify the type of control of the school listed:

Public:	Controlled by Federal, State, or Local governments
Proprietary/ profit:	Operated as a private, profitmaking school
Nonprofit:	Operated as an independent nonprofit-making school with no religious affiliation

APPENDIX C

NCFPE AND CARNEGIE SURVEY FORMS

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NATIONAL
COMMISSION on the
FINANCING of
POSTSECONDARY EDUCATION

Donald E. Leonard,
Chairman
Marian W. La Follette,
Vice Chairman
Senator J. Glenn Beall, Jr.
Ernest L. Boyer
Congressman John Brademas
Joseph P. Cosand
Congressman John Dellenback
Governor Winfield Dunn
Tim R. Engen
George Kaludis
Dan M. Martin
Walter C. Mercer
Senator Claiborne Pell
John W. Porter
Louis P. Rodriguez
Sister Jane Scully
Ruth C. Silva

Gentlemen:

The Congress of the United States has charged our Commission to conduct a study and make recommendations concerning the financing of postsecondary education. The study will consider the impact of past, present, and anticipated private, local, state, and federal support for postsecondary education, including recommendations on the appropriate role of the states in support of higher education. In addition, we will review alternative student assistance programs and the potential federal, state, and private participation in such programs.

The Commission's staff has made an extensive search of available information and has found no comprehensive data about postsecondary career schools. Information about this significant sector of education is not only essential to our study but should be of great value to you and other career schools as well. Therefore, we are conducting a survey to create perhaps for the first time a systematic set of information about such schools that will be analyzed as part of our study. You will greatly assist us if you will complete and return the enclosed questionnaire by June 30, 1973. We have no hesitation in making the results of the survey available to you at your request.

Should you have any questions that are not answered by the enclosed instruction sheet, please contact Mr. Ray Thompson in our Washington, D.C. office.

Very truly yours,

Donald E. Leonard
Commission Chairman

Ben Lawrence, *Executive Director*,
Office of the Chairm[illegible]
1612 Court Place, Suite 750
Denver, Colorado 80202
(303) 837-2461

George Weathersby, *Associate Director*,
Office of Research
1030 15th St., N.W., Suite 1060
Washington, D.C. 20005
(202) 254-8137

June 6, 1973

NATIONAL COMMISSION ON THE FINANCING OF POSTSECONDARY EDUCATION

SURVEY OF POSTSECONDARY CAREER SCHOOLS

Data obtained from this survey will be treated as confidential and will not be identified with the name of your school in any publication.

General Instructions

Please complete and return the enclosed questionnaire by June 30, 1973. A postage-paid, return envelope has been enclosed for your use.

Refer to the specific instructions below for guidance in completing the questionnaire. Wherever it is not possible to provide the actual information requested, please provide your best estimate. For any items that are not applicable, indicate "na". Feel free to call (collect) Ray Thompson in our Washington office (phone 202/254/8137) about any questions you have.

Specific Instructions

The following instructions correspond to item numbers on the questionnaire.

Item 1 Indicate the person at your institution who should be contacted regarding the questionnaire.

Item 2 List the contact person's phone number.

Item 3 Indicate the ending date of the fiscal year for which the survey data are reported. This should be the 1972-73 fiscal year or the most recent year for which all data are available. (I.e. all data reported should be for the same fiscal year.)

Item 4 Indicate the number of separate campuses or schools which are covered by the repor[illegible]

Item 5 Include only those staff members who are primarily engaged in instructional activities. Exclude custodial, clerical and other staff.

Item 6 Institutional Finance

(A) Current Operating Revenue

Student Charges: Include the total amount of revenues received from students in payment of charges for educational services. Do not include noneducational or extracurricular revenues from students.

Governmental Aid: Report total revenues from all governmental sources (local, state and federal) including the gross amount received for student aid and any sponsored activities, such as research. In reporting Federal funds received, include those Federal funds which are channeled through state agencies.

Private Gifts: Indicate the total amount received by the institution from non-governmental sources. Include estimated value of contributed goods and services.

Endowment Income: Include all revenues derived from earnings of funds used as endowment and income from trusts of which your institution is the beneficiary.

Auxiliary Enterprises: Show the gross revenue of all activities which furnish a service to students or staff and which charge a fee that is directly related to the cost of the service.

(B) Current Operating Expenditures

Instruction: List the amount spent on all objects of expenditures such as salaries, supplies, et al for instructional activities including research, if any.

Student Aid: Include amounts spent for student scholarships or grants; exclude amounts spent in connection with student work assignments or loans given by the institution.

Placement: Report the amount expended for job placement activities.

Administration: Indicate expenditures for general institutional operation, other than plant operating expenses. This should include expenditures for advertising, the business office, executive officers, etc. Also include staff benefits not distributed to other budgetary units.

Plant Operation: Report expenditures for operation and maintenance of the physical plant.

Auxiliary Enterprises: List gross expenditures for auxiliary enterprises such as parking lots, food service, etc. Also, indicate current fund expenditures for principal or interest payments on auxiliary enterprise facility indebtedness.

(C) Net Worth: Report beginning and ending value for the fiscal year.

Item 7 Student Characteristics

(A) Ethnic-racial Distribution: Indicate the number of students (give estimates if actual data not available) in each category.

(B) Distribution by Age: Report the number of students in each age group. Use estimates if necessary.

(C) Student Financial Aid: Show the number of financial aid recipients from each of the following aid programs: college work study; guaranteed student loans; manpower development training act; national defense student loans; veterans administration. For state and other sources from which your students receive assistance specify the program(s) involved. Also, report the unduplicated total number of financial aid recipients, i.e. report the total number of students receiving financial aid ignoring the fact that some students receive multiple awards.

Item 8 Program Characteristics

(A) Program or Field: Refer to the enclosed list of U.S. Office of Education program codes and list the code number most closely corresponding to each of the programs in which you had students enrolled during the year concerned. If none of the codes appears suitable, write in the title of the program.

(B) & (C) Length: For each program listed, indicate its length in months and the number of hours per week of instruction.

(D) & (E) Student Charges: Report charges per student.

(F) - (K) Enrollments: For each program report the total enrollment for the year under each column.

(L) Number Completing Program: Show the number of students who completed each listed program during the year concerned.

(M) Give the total number of students you assisted in finding full time jobs; include those full time jobs found for students at the completion of their course of study and those full time jobs found for students who did not complete the course of study.

LIST OF VOCATIONAL-TECHNICAL INSTRUCTION PROGRAMS

(U.S. Office of Education Classifications)

Agri-Business Occupations

Code	Name	Code	Name
01.01	Agricultural Production	01.05	Ornamental Horticulture
01.02	Agricultural Supplies/Services	01.06	Agricultural Resources
01.03	Agricultural Mechanics	01.07	Forestry
01.04	Agricultural Products	01.99	Agriculture, Other

Marketing and Distribution Occupations

04.01	Advertising Services	04.12	Industrial Marketing
04.02	Apparel and Accessories	04.13	Insurance
04.03	Automotive	04.14	International Trade
04.04	Finance and Credit	04.15	Personal Services
04.05	Floristry	04.16	Petroleum
04.06	Food Distribution	04.17	Real Estate
04.07	Food Services	04.18	Recreation and Tourism
04.08	General Merchandise	04.19	Transportation
04.09	Hardware, Building Materials	04.20	Retail Trade, Other
04.10	Home Furnishings	04.31	Wholesale Trade, Other
04.11	Hotel and Lodging	04.99	Distributive Education, Other

Health Occupations

07.0101	Dental Assisting	07.0501	Radiologic Technology (X-ray)
07.0102	Dental Hygiene (Associate Degree)	07.0502	Radiation Therapy
07.0103	Dental Laboratory Technology	07.0503	Nuclear Medical Technology
07.0199	Dental, Other	07.0599	Radiologic, Other
07.0201	Cytology (Cytotechnology)	07.06	Ophthalmic
07.0202	Histology	07.07	Environmental Health
07.0203	Medical Laboratory Assisting	07.08	Mental Health Technology
07.0204	Hemotology	07.0901	Electroencephalograph Technology
07.0299	Medical Laboratory Technology, Other	07.0902	Electrocardiograph Technology
		07.0903	Inhalation Therapy
07.0301	Nursing (Associate Degree)	07.0904	Medical Assisting (Physicians' Office)
07.0302	Practical (Vocational) Nursing		
07.0303	Nursing Assistant (Aide)	07.0906	Community Health Aide
07.0399	Nursing, Other	07.0909	Mortuary Science
07.0401	Occupational Therapy	07.0999	Miscellaneous Health Occupations, Other
07.0402	Physical Therapy		
07.0499	Rehabilitation Services, Other	07.99	Health Occupations, Other

Home Economics

Code	Name	Code	Name
09.01	Homemaking/Personal, Home and Family	09.0201	Care and Guidance of Children
09.0102	Child Development	09.0202	Clothing Mgmt., Production and Services
09.0103	Clothing and Textiles		
09.0104	Consumer Education	09.0203	Food Management, Production and Services
09.0106	Family Relations		
09.0107	Foods and Nutrition	09.0204	Home Furnishing, Equipment and Services
09.0108	Home Management		
09.0109	Housing and Home Furnishings	09.0205	Institutional & Home Management & Services
09.0199	Homemaking, Other		
09.02	Home Economics: Occupational Preparation	09.0299	Home Economics: Occupational, Other

Business and Office Occupations

14.01	Accounting and Computing Occupations	14.06	Personnel, Training & Related Occupations
14.02	Business Data Processing Systems Occupations	14.07	Steno., Secretarial and Related Occupations
14.03	Filing, Office Machines, Clerical Occupations	14.08	Supervisory & Admin. Management Occupations
14.04	Information Communication Occupations		
14.05	Materials Support Occupations	14.09	Typing and Related Occupations
		14.99	Office Occupations, Other

Technical Occupations

16.0101	Aeronautical Technology	16.0116	Petroleum Technology
16.0102	Agricultural Technology	16.0117	Scientific Data Processing
16.0103	Architectural Technology	16.02	Agricultural-Related Technology
16.0104	Automotive Technology	16.03	Health-Related Technology
16.0105	Chemical Technology	16.04	Office-Related Technology
16.0106	Civil Technology	16.05	Home Economics-Related Technology
16.0107	Electrical Technology	16.0601	Commercial Pilot Training
16.0108	Electronic Technology	16.0602	Fire and Fire Safety Technology
16.0109	Electromechanical Technology	16.0603	Forestry Technology
16.0110	Environmental Control Technology	16.0604	Oceanographic Technology
16.0111	Industrial Technology	16.0605	Police Science Technology
16.0112	Instrumentation Technology	16.0699	Miscellaneous Technical Education, Other
16.0113	Mechanical Technology		
16.0114	Metallurgical Technology	16.9901	Air Pollution Technology
16.0115	Nuclear Technology	16.9902	Water and Waste Water Technology

Trade and Industrial Occupations

Code	Name
17.01	Air Conditioning Installation and Repair
17.02	Appliance Repair
17.0301	Body and Fender Repair
17.0302	Auto Mechanic
17.0303	Auto Specialization Repair
17.0399	Automotive Services, Other
17.0401	Aircraft Maintenance
17.0402	Aircraft Operations
17.0403	Ground Operations
17.05	Blueprint Reading
17.06	Business Machine Maintenance
17.07	Commercial Art Occupations
17.08	Commercial Fishery Occupations
17.09	Commercial Photography Occupations
17.1001	Carpentry, Construction
17.1002	Electricity, Construction
17.1003	Heavy Equipment Maintenance Operations
17.1004	Masonry
17.1005	Painting and Decorating
17.1006	Plastering
17.1007	Plumbing and Pipefitting
17.1008	Drywall Installation
17.1009	Glazing
17.1010	Roofing
17.1099	Construction and Maintenance Trades, Other
17.11	Custodial Services
17.12	Diesel Mechanic
17.13	Drafting Occupations
17.14	Electrical Occupations
17.15	Electronics Occupations
17.16	Fabric Maintenance Services
17.17	Foreman, Supervisor & Management Development
17.19	Graphic Arts Occupations
17.20	Industrial Atomic Energy Occupations
17.21	Instrument Maintenance and Repair Occupations
17.22	Maritime Occupations
17.23	Metalworking Occupations
17.24	Metallurgy Occupations
17.2601	Barbering
17.2602	Cosmetology
17.2699	Personal Services, Other
17.27	Plastics Occupations
17.2801	Fireman Training
17.2802	Law Enforcement Training
17.2899	Public Service Occupations, Other
17.29	Quantity Food Occupations
17.30	Refrigeration
17.31	Small Engine Repair, Internal Combustion
17.32	Stationary Energy Sources Occupations
17.33	Textile Production and Fabrication
17.34	Leatherworking
17.35	Upholstering
17.36	Woodworking Occupations
17.99	Trade and Industrial Occupations, Other

NATIONAL COMMISSION ON THE FINANCING OF POSTSECONDARY EDUCATION
SURVEY OF POSTSECONDARY CAREER SCHOOLS

Please return by
June 30, 1973

THIS DATA WILL BE TREATED AS CONFIDENTIAL AND WILL NOT BE IDENTIFIED WITH THE NAME OF YOUR SCHOOL IN ANY PUBLICATION.

(ADDRESS LABEL)

1 CONTACT PERSON: ______________

2 TELEPHONE NUMBER: ______________

3 YEAR - All data reported are for the fiscal year ending ______.

4 SCHOOLS COVERED - Indicate the number of individual campuses/schools covered by this report: ______

5 INSTRUCTIONAL STAFF (NUMBER) - Full-time ______ Part-time ______

6 INSTITUTIONAL FINANCE

(A) Current Operating Revenue from:

Student Charges $______
Governmental Aid ______
Private Gifts ______
Endowment Income ______
Auxiliary Enterprises ______
______
Total ______

(B) Current Operating Expenditures for:

Instruction $______
Student Aid ______
Job Placement ______
Administration ______
Plant Operation ______
Auxiliary Enterprises ______
______
Total ______

(C) Net Worth:

Net Worth at beginning of fiscal year ______
Net Worth at end of fiscal year ______

7 STUDENT CHARACTERISTICS (Number of students in each category)

(A) Ethnic-racial Distribution

	Men	Women
Black	____	____
Spanish Surname	____	____
Asian	____	____
American Indian	____	____
White	____	____
Other	____	____

(B) Distribution by Age

	Men	Women
18 - 21	____	____
21 - 29	____	____
Over 29	____	____

(C) Student Financial Aid - number of recipients from:

Federal:
College Work Study ______
Guaranteed Student Loans ______
Manpower Development Training Act ______
National Defense Student Loans ______
Veterans Administration ______

State: ______

Other: ______

Unduplicated Total (Total recipients, not total awards.) ______

Please return to NCFPE, 1030 15th Street, NW, Suite 1060, Washington, D.C. 20005

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8 PROGRAM CHARACTERISTICS					ENROLLMENTS: TOTAL FOR THE YEAR						NUMBER COMPLETING PROGRAM	NO. OF JOB PLACEMENTS IN FIELD
PROGRAM OR FIELD	LENGTH		STUDENT CHARGES		Full-time		Part-time		Corres-pondence	Headcount Total		
(A)	Mos (B)	Hrs/Wk (C)	Tuition & Fees (D)	Supplies Books,etc (E)	Men (F)	Women (G)	Men (H)	Women (I)	(J)	(K)	(L)	(M)
1)												
2)												
3)												
4)												
5)												
6)												
7)												
8)												
9)												
10)												
11)												
12)												
13)												
14)												
15)												
TOTAL	XXXXXXXXXXX XXXXXXXXXXX		XXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXX									

* Unduplicated (headcount) total of columns (F) through (J)

NOTE: If your institution has more than 15 programs, please duplicate extra pages of this form as needed.

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Carnegie Commission on Higher Education

SURVEY OF PRIVATE TRADE, TECHNICAL, BUSINESS, SPECIALIZED, AND VOCATIONAL SCHOOLS AND COLLEGES

1. What year was your school founded? ____________________

2. Which of the following most accurately describes your school 10 years ago and at present:

	(a) 10 years ago (or when founded if not in existence 10 years ago)	(b) Present
1) Sole proprietorship	☐	☐
2) Partnership	☐	☐
3) Corporation (privately held)	☐	☐
4) Corporation (publicly held)	☐	☐
5) Association	☐	☐
6) Franchise	☐	☐
7) Division of industry or business	☐	☐
8) Other (please describe)	☐	☐

3. Please indicate below total student enrollment for each of the years specified.

1) Enrollment in 1958 (or enrollment in year founded if later than 1958) ____________________
2) Enrollment in 1968 ____________________
3) Enrollment at present (1972) ____________________
4) Your estimate of enrollment in 1975 ____________________

---

4. Please estimate the approximate proportions of your students that fall into the following categories:

	(1) Less than 10%	(2) 10-20%	(3) 20-30%	(4) 30-40%	(5) 40-50%	(6) 50-60%	(7) 60-70%	(8) 70-80%	(9) 80-90%	(10) 90-100%
a) Under 21	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
b) Over 25	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
c) Married	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
d) Female	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
e) Part-time	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
f) From predominantly minority ethnic background	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
g) From families with incomes less than $5,000 per year	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
h) Are high school graduates	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
i) Have not graduated from high school	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
j) Have some college education but do not hold a bachelor's degree	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
k) Hold a bachelor's or higher degree	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

5. In your judgment, approximately what percent of your present students are enrolled in your program for the following reasons:

1) Training for their first employment (not counting part-time or intermittant work while in school) ____________ %
2) Retraining to change occupation ____________ %
3) Further training to obtain higher position in same general occupation ____________ %
4) For personal development and/or leisure not directly or immediately related to occupational goals ____________ %

6. Please indicate how important you believe the following reasons are to students selecting your school in preference to a lower tuition public college or institute:

	(1) Very Important	(2) Important	(3) Slightly Important	(4) Not Important
a) No public college or institute offers training in this subject in the geographical area	☐	☐	☐	☐
b) The required program at this school is shorter	☐	☐	☐	☐
c) Placement services better at this school	☐	☐	☐	☐
d) Instruction better here	☐	☐	☐	☐
e) Don't have to wait as long to enroll	☐	☐	☐	☐
f) The school specializes in the subject	☐	☐	☐	☐
g) This school provides a chance to work in the field	☐	☐	☐	☐

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7. **Please list certificates or degrees awarded by your institution and the requested information about each program:**

(1) Name of Program	(2) Number of months to complete	(3) Year program first offered	(4) Check if enrollment increased in last 10 years	(5) Check if enrollment decreased in last 10 years	(6) Check if program qualifies for state license	(7) High school graduation required for state license
[EXAMPLE Dental Assistants' Course	4	1959	☑	☐	☑	☐]
			☐	☐	☐	☐
			☐	☐	☐	☐
			☐	☐	☐	☐
			☐	☐	☐	☐
			☐	☐	☐	☐
			☐	☐	☐	☐
			☐	☐	☐	☐

8. **Please list any programs which you have stopped offering in the last 10 years:**

____

____

____

____

____

9. **Approximately what percent of your students fall into the following categories:**

	(1) Less than 10%	(2) 10-20%	(3) 20-30%	(4) 30-40%	(5) 40-50%	(6) 50-60%	(7) 60-70%	(8) 70-80%	(9) 80-90%	(10) 90-100%
a) enrolled only in daytime classes at your school	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
b) enrolled only in evening classes at your school	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
c) enrolled in both evening and daytime classes	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
d) enrolled only in correspondence study	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
e) enrolled in both correspondence courses and daytime classes	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

10. **Approximately what percent of all study and learning time is spent in each of the following:**

1) Classroom instruction (lecture, demonstration, discussion) _______ %
2) Supervised work experience in related industry _______ %
3) Supervised practice in laboratory setting _______ %
4) Computer aided instruction _______ %
5) Independent study _______ %
6) Other (please specify) _______________ _______ %
_______________ _______ %

11. **How important is each of the following sources of information to you in planning a new course?**

	(1) Very Important	(2) Important	(3) Slightly Important	(4) Not Important
a) Informal contacts with employers	☐	☐	☐	☐
b) Department of Labor statistics	☐	☐	☐	☐
c) Feedback from graduates	☐	☐	☐	☐
d) Public school authorities	☐	☐	☐	☐
e) Professional associations (ADA, UBSA, etc. Please identify) _______________	☐	☐	☐	☐
f) Accreditation teams (if applicable)	☐	☐	☐	☐
g) Home office publications	☐	☐	☐	☐
h) Civic organizations (Chamber of Commerce, etc.)	☐	☐	☐	☐
i) Student, or potential student requests	☐	☐	☐	☐
j) Other (please specify) _______________	☐	☐	☐	☐

____

12. Which of the following, if any, would lead to refusal to enroll the applicant in your school:

1) applicant less than 18 years old ________
2) applicant is over 40 years old ________
3) lack of high school graduation ________
4) inadequate score on qualifying tests ________

13. Could you estimate what percent of total applications are refused on the grounds listed in question 12 above.

________ %

14. Is your school or are any programs in your school accredited by a professional, technical, or regional accrediting association?

1) ___ Yes
2) ___ No

15. If yes on question 14, please indicate:

	(1) Name of accrediting agency	(2) Date of accreditation
a)	________	________
b)	________	________
c)	________	________

16. Is your school a part or a branch of an institution with more than one location of operation?

1) ___ Yes
2) ___ No

If your answer to question 16 is "no" please skip to question 18.

17. If your answer to the above question is "yes", please answer the following:

1) How many locations does the institution have? ________

2) Are materials prepared centrally for use by instructors at all locations?
   1) ___ Yes
   2) ___ No

3) Are standard fees or tuition charged students at all locations?
   1) ___ Yes
   2) ___ No

4) Are the following handled centrally (by main branch or headquarters) or locally at each location?

	(1) Locally	(2) Nationally
a) Advertising	☐	☐
b) Student Admission	☐	☐
c) Recruitment and appointment of instructors	☐	☐

18. Please indicate below the size of your faculty (using full-time equivalent) for each of the years specified:

1) Number of faculty in 1958 or year founded if later than 1958: ________
2) Number of faculty in 1968: ________
3) Number of faculty in 1971: ________
4) Number of faculty estimated for 1975: ________

19. Indicate percentages for each of the following—(if the item does not apply to your institution at all, please check not applicable column):

Faculty	(1) Not applicable	(2) Less than 10%	(3) 10-30%	(4) 30-50%	(5) 50-70%	(6) 70-90%	(7) Over 90%
a) Have tenure in this institution	☐	☐	☐	☐	☐	☐	☐
b) Have experience in related industry or business	☐	☐	☐	☐	☐	☐	☐
c) Have a B.A. or B.S. degree	☐	☐	☐	☐	☐	☐	☐
d) Have a graduate college degree	☐	☐	☐	☐	☐	☐	☐
e) Teach part-time at this institution	☐	☐	☐	☐	☐	☐	☐
f) Are currently employed in related business or industry	☐	☐	☐	☐	☐	☐	☐
g) Belong to an employees bargaining association	☐	☐	☐	☐	☐	☐	☐
h) Are employed on a calendar year rather than 9 mo. or 10 mo. basis	☐	☐	☐	☐	☐	☐	☐
i) Have full-time salary at this institution of more than $12,000 per year	☐	☐	☐	☐	☐	☐	☐
j) Have full-time salary at this institution of less than $7,000 per year	☐	☐	☐	☐	☐	☐	☐

20. How is your president or director appointed or determined?

1) ___ Owner serves as president
2) ___ Appointed by board of directors or trustees
3) ___ Appointed by president of parent corporation
4) ___ Other, (please specify) ________

21. How long has the present director or president served in that capacity?

____

22. Including the present director or president, how many different people have served in that capacity in the last ten years?

23. Please check any of the following that apply to your institution:

1) ___ Instructors participate in screening and hiring of new instructors
2) ___ There is a tenure policy
3) ___ There is a standard salary scale for teaching personnel
4) ___ Teaching personnel salaries are individually negotiated
5) ___ There is a student council or student government

24. How important is each of the following methods in determining the effectiveness of your courses or programs?

	(1) Very Important	(2) Important	(3) Slightly Important	(4) Not Important
a) Formal student follow-up procedures	☐	☐	☐	☐
b) Accreditation visits (if applicable)	☐	☐	☐	☐
c) Informal contacts with employers	☐	☐	☐	☐
d) Informal feedback from graduates	☐	☐	☐	☐
e) New student demand	☐	☐	☐	☐
f) Results of tests taken by graduates	☐	☐	☐	☐
g) Other (please specify) ____________________	☐	☐	☐	☐

25. How important is each of the following in recruiting new students:

	(1) Very Important	(2) Important	(3) Slightly Important	(4) Not Important
a) Our own graduates	☐	☐	☐	☐
b) Advertising	☐	☐	☐	☐
c) Recruiting staff	☐	☐	☐	☐
d) Employers	☐	☐	☐	☐
e) High school counselors	☐	☐	☐	☐
f) Other (please specify) ____________________	☐	☐	☐	☐

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26. What is your approximate charge to students (tuition and fees)

$ ____________

1) $ ____________ per single course

2) $ ____________ per full-time program

27. This charge is for a term of ____________ weeks.

28. Approximately what percent of your total operating and capital costs is derived from student charges?

1) ___ Over 90%

2) ___ 70-90%

3) ___ 50-70%

4) ___ Less than 50%

29. What are your other sources of income and what percent do they constitute of total operating costs?

1) Endowment income ____________ %

2) Donations ____________ %

3) Government payments ____________ %

30. Does your institution operate in leased or owned facilities?

1) ___ Rented-leased

2) ___ Owned by school

3) ___ Other, (please specify) ____________________

---

31. Please check the proportion of your total annual expenditures devoted to each of the following?

	(1) Less than 10%	(2) 10-30%	(3) 30-50%	(4) 50-70%	(5) 70-90%	(6) Over 90%
a) Physical facilities (rent, maintenance, depreciation, mortgage payments, and/or construction costs	☐	☐	☐	☐	☐	☐
b) Instructors salaries	☐	☐	☐	☐	☐	☐
c) Administrators salaries	☐	☐	☐	☐	☐	☐
d) Equipment	☐	☐	☐	☐	☐	☐
e) Student aid	☐	☐	☐	☐	☐	☐
f) Advertising	☐	☐	☐	☐	☐	☐

(please continue to next page)

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32. Please indicate the approximate proportion of your students that:

	(1) Less than 10%	(2) 10 20%	(3) 20-30%	(4) 30-40%	(5) 40-50%	(6) 50-60%	(7) 60-70%	(8) 70-80%	(9) 80-90%	(10) 90-100%
a) Are recipients of federal educational opportunity grants	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
b) Receive benefits from Veterans Administration	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
c) Are recipients of state scholarships	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
d) Receive aid from scholarship funds at your school	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
e) Participate in federal work study program	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
f) Receive federal NDS loans	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
g) Receive guaranteed student loans	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
h) Work part-time for compensation (as a supervised part of educational program)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
i) Work part-time for compensation (not part of educational program)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
j) Work full-time	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
k) Receive funds from family	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
l) Are given deferred tuition	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

---

33. Do you have placement services for your graduates?

1) ___ Yes

2) ___ No

34. If so, approximately what percent of your graduates are placed directly through those services?

____________ %

35. What percent of your students enter employment related to their training within the following periods of time:

1) Within 2 weeks after course completion ____________ %

2) Between 2 weeks and 2 months after completion ____________ %

3) Between 2 months and 6 months after completion ____________ %

36. Do you regularly maintain student information concerning the following:

	(1) Yes	(2) No
a) Educational background of students	☐	☐
b) Income data on students family	☐	☐
c) Educational attainment of parents	☐	☐
d) Occupation of parents	☐	☐
e) Ethnic background of student	☐	☐
f) Past employment experience	☐	☐
g) Follow-up employment information on students (if "yes" on 7) please indicate number of years during which follow-up information is obtained ____________)	☐	☐

37. Does your school have contracts or other formal arrangements with other educational institutions under which you supply specified educational services?

1) ___ Yes

2) ___ No

38. If yes, check which type or types of institutions with which you have such contracts or arrangements:

1) ___ Private 2-year college

2) ___ Public 2-year college

3) ___ Private 4-year college

4) ___ Public 4-year college

5) ___ Public secondary school

6) ___ Private secondary school

39. Is it possible for students completing your program to obtain credit for related work taken at other colleges?

1) ___ Yes

2) ___ No

40. Do you now have, or have you had at any time in the past 5 years, contracts with state Vocational Rehabilitation agencies for training of their clients?

1) ___ Yes

2) ___ No

41. If answer to 40 above is yes, approximately how many students were enrolled under such contracts in the last 5 years?

1) ____________ less than 5

2) ____________ 5 to 10

3) ____________ 10 - 20

4) ____________ 20 - 30

5) ____________ 30 - 50

6) ____________ more than 50

(please continue to next page)

42. Do you permit transfer credit from other educational institutions for any portion of your program requirements?

1) ___ Yes
2) ___ No

43. Has your institution been classified as nonprofit for tax purposes?

1) ___ Yes
2) ___ No

44. Compared to your annual operating budget for 1967-68, how much of an increase in the budget do you estimate you will achieve by 1975-76?

1) ___ Less than 25%
2) ___ Between 25 and 50%
3) ___ Between 50 and 75%
4) ___ 100%
5) ___ More than 100%

45. If your school's budget were suddenly increased by 10%, on what items would you spend the additional income?

46. In the last 5 years, what would you consider the most important "innovation", "reform", or "improvement" at your school?

47. In the next 5 years what would you consider as the most important problem that will confront your school?

(Use additional space on the right for any additional comments.)

Thank you very much.

CARNEGIE COMMISSION ON THE
FUTURE OF HIGHER EDUCATION
1947 Center Street
Berkeley, California 94704

May 1972

APPENDIX D

NCFPE SURVEY TABLES

Table D-1: Vocational Education Postsecondary Directory Universe, 1971-72

Control of Schools	Total Number	% of Total
Public	1,783	15.2
Private	9,948	84.8
Proprietary	8,279	70.6
Private nonprofit	1,209	10.3
Religious	460	3.9
Total	*11,731*	*100*

Table D-2

Distribution of Noncollegiate Institutions and Enrollment, by Institutional Size, 1972

TYPE	CONTROL NUMBER OF INST.*	% INSTITUTIONS						% ENROLLMENTS					
		0-49	50-99	100-499	500-999	1000-1499	1500+	0-49	50-99	100-499	500-999	1000-1499	1500+
Trade Schools & Technical Institutes	Public 17:35	-	5.9	29.4	17.6	29.4	17.6	-	0.3	4.4	9.2	30.2	56.0
	Profit 20:75	55.0	20.0	20.0	5.0	-	-	12.7	11.9	52.7	22.8	-	-
	Nonprofit 9:29	11.1	-	88.9	-	-	-	1.6	-	98.4	-	-	-
Subtotal	*46:139*	*26.1*	*10.9*	*37.0*	*8.7*	*10.9*	*6.5*	*1.4*	*1.3*	*19.1*	*9.5*	*24.1*	*44.7*
Business, Cosmetology, Flight, Hospital, Vocational, and Other Schools	Public 41:73	24.4	4.9	31.7	22.0	9.8	7.3	0.6	0.4	11.6	21.6	16.1	49.7
	Profit 53:233	32.1	30.2	32.1	3.8	-	1.9	5.6	13.2	36.9	13.3	-	30.9
	Nonprofit 62:124	69.4	12.9	17.7	-	-	-	21.3	20.2	58.4	-	-	-
Subtotal	*156:430*	*44.9*	*16.7*	*26.3*	*7.1*	*2.6*	*2.6*	*3.3*	*4.7*	*20.6*	*18.2*	*11.4*	*41.9*
*TOTAL***	*Public 58:108*	*17.2*	*5.2*	*31.0*	*20.7*	*15.5*	*10.3*	*0.4*	*0.4*	*8.6*	*16.5*	*21.8*	*52.3*
	Private 144:461	*50.0*	*19.4*	*27.8*	*2.1*	-	*0.7*	*8.9*	*12.2*	*52.9*	*10.0*	-	*15.9*
	All 202:569	*40.6*	*15.3*	*28.7*	*7.4*	*4.5*	*3.5*	*2.6*	*3.4*	*20.0*	*14.9*	*16.2*	*42.9*

*Ratio of actual responses to # of sample institutions. Does not include survey schools that have closed.
**Excludes correspondence schools because number of responses was too small.

Table D-3: Total Distribution of Noncollegiate Institutions and Enrollments, by Institutional Size, 1972

CONTROL	% INSTITUTIONS						% ENROLLMENTS					
	0-49	50-99	100-499	500-999	1000-1499	1500+	0-49	50-99	100-499	500-999	1000-1499	1500+
CARNEGIE	27.4%	17.5%	44.3%	6.0%	1.0%	3.7%	0.9%	1.7%	13.9%	5.6%	1.6%	76.2%
NCFPE	50.0	19.4	27.8	2.1	-	0.7	8.9	12.2	52.9	10.0	-	15.9

Table D-4: Enrollment Composition of Noncollegiate Institutions,* by Sex, 1972

Type	Control Number Schools	Enrollment (000s)	% Men	% Women
Trade Schools and Technical Institutes	Public 176	210.1	73.0	27.0
	Profit 1,125	135.0	85.4	14.6
	Nonprofit 142	43.2	55.4	44.6
Subtotal	*1,443*	*388.3*	*75.4*	*24.6*
Business, Cosmetology, Flight, Hospital, Vocational, and Other Schools	Public 732	526.3	50.6	49.4
	Profit 6,981	1,151.9	39.2	60.8
	Nonprofit 1,243	64.6	20.0	80.0
Subtotal	*8,956*	*1,742.8*	*41.9*	*58.1*
Totals	Public 908	736.4	57.0	43.0
	Private 9,491	1,394.7	43.2	56.8
	All 10,399	2,131.1	48.0	52.0

*Correspondence schools not included here.

Table D-5: Enrollment Composition of Noncollegiate Institutions,* by Age, 1972

Type	Control Number Schools	Enrollment (000s)	% 18-21	% 21-29	% 29+
Trade Schools and Technical Institutes	Public 176	210.1	44.5	35.6	19.9
	Profit 1,125	135.0	49.2	37.2	13.6
	Nonprofit 142	43.2	30.9	54.6	14.4
Subtotal	*1,443*	*388.3*	*45,2*	*38.1*	*16.7*
Business, Cosmetology, Flight, Hospital, Vocational, and Other Schools	Public 732	526.3	35.3	36.2	28.5
	Profit 6,981	1,151.9	65.2	24.5	10.3
	Nonprofit 1,243	64.6	57.9	24.5	17.6
Subtotal	*8,956*	*1,742.8*	*57.5*	*27.4*	*15.1*
Total	Public 908	736.4	38.6	36.0	25.4
	Private 9,491	1,394.7	61.6	27.2	11.2
	All 10,399	2,131.1	54.7	29.8	15.5

*Correspondence schools not included here.

Table D-6: Enrollment Composition of Noncollegiate Institutions,* by Ethnic Group, 1972

Type	Control Number Schools	Enrollment (000s)	% American Indian	% Asian	% Black	% Spanish	% White	% Other
Trade Schools and Technical Institutes	Public 176	210.1	0.6	0.6	10.4	1.5	86.6	0.3
	Profit 1,125	135.0	2.6	0.2	9.3	5.8	81.9	0.2
	Nonprofit 142	43.2	-	0.8	54.9	1.3	42.9	-
Subtotal	*1,443*	*388.3*	*1.2*	*0.5*	*15.0*	*3.0*	*80.1*	*0.2*
Business, Cosmetology, Flight, Hospital, Vocational, and Other Schools	Public 732	526.3	0.6	0.1	12.3	6.5	80.4	-
	Profit 6,981	1,151.9	0.7	1.0	13.0	3.6	81.3	0.4
	Nonprofit 1,243	64.6	0.4	0.3	2.4	2.1	94.6	0.2
Subtotal	*8,956*	*1,742.8*	*0.6*	*0.6*	*12.4*	*4.5*	*81.5*	*0.3*
Totals	Public 908	736.4	0.6	0.2	11.8	5.1	82.2	0.1
	Private 9,491	1,394.7	0.8	0.9	13.5	3.7	80.8	0.3
	All 10,399	2,131.1	0.7	0.6	12.9	4.2	81.3	0.2

*Correspondence school not included here

Table D-7:

Percentage Noncollegiate Enrollments From Low-Income Families (<$5,000), 1972

Schools Whose Low-Income Enrollments Are From:	Total Enrollment	Range of Low-Income Enrollments
0 - 10%	86,210	0 - 8,621
10 - 20%	99,003	9,900 - 19,801
20 - 30%	128,163	25,633 - 38,449
30 - 40%	33,163	10,191 - 13,588
40 - 50%	4,892	1,957 - 2,446
50 - 60%	5,584	2,792 - 3,350
60 - 70%	2,266	1,360 - 1,586
70 - 80%	2,437	1,706 - 1,950
80 - 90%	43,662	34,930 - 39,296
90 -100%	4,102	3,692 - 4,102
OVERALL NUMBER	410,288	92,161 133,189
PERCENT	100.0	22.5 32.5
		27.5

Table D-8: Distribution of Student Aid Recipients, by Source, 1972

Type	Control	Number of Schools	Total Enrollment (000)	Number Receiving Student Aid (000)	Percent Receiving Student Aid	Percent Distribution of Student Aid Awards by Source						
						CWS	GSL	MDTA	NDSL	VA	State Aid	Other
Trade Schools and Technical Institutes	Public	176	210.1	68.8	32.7	8.8	6.5	5.8	4.5	38.8	15.1	20.5
	Profit	1,125	135.0	90.0	66.7	-	49.2	2.0	-	34.2	7.5	7.0
	Nonprofit	142	43.2	12.1	28.0	-	12.1	23.5	-	45.5	9.1	9.8
	Subtotal	*1,443*	*388.3*	*170.9*	*44.0*	*2.5*	*34.9*	*4.3*	*11.3*	*36.1*	*9.8*	*11.1*
Business, Cosmetology, Flight, Hospital, Vocational, and Other Schools	Public	732	526.3	117.9	22.4	23.2	12.9	13.7	0.4	28.2	5.5	15.5
	Profit	6,981	1151.9	614.3	53.3	14.2	32.6	8.3	22.0	11.0	4.6	7.3
	Nonprofit	1,243	64.6	33.6	52.0	13.8	13.8	16.3	15.0	3.8	26.3	11.3
	Subtotal	*8,956*	*1,742.8*	*765.8*	*43.9*	*15.2*	*29.4*	*9.3*	*19.3*	*12.6*	*5.9*	*8.4*
Correspondence**		650	216.5	-	-	-	-	-	-	-	-	-
Totals	Public	908	736.4	186.7	25.4	18.5	10.8	11.0	1.7	32.1	8.7	17.2
	Private	9,491	1394.7	750.0	53.8	12.3	33.4	8.1	18.8	13.8	6.1	7.5
	All	10,399	2131.1	936.7	44.0	13.2	30.3	8.5	16.4	16.3	6.5	8.9

*Unduplicated total of student aid recipients
**Not included in totals

Table D-9 Curricular Program Characteristics of Noncollegiate Institutions, 1972

Type	Control	Number of Schools	Program Length (months)	Tuition & Fees (average)	Equivalent Tuition & Fees*	% Full Time	% Part Time	% Program Completions**	% Job Placement***
Trade Schools & Technical Institutes	Public	176	18	$ 175	$ 88	74.5%	25.5%	50.2%	93.3%
	Profit	1,125	9	1,233	1,233	71.4	28.6	76.1	55.5
	Nonprofit	142	13	868	601	70.3	29.7	30.7	60.8
Subtotal		*1,443*	*17*	*386*	*204*	*73.9*	*26.1*	*50.4*	*87.6*
Business, Cosmetology, Flight, Hospital, Vocational & Other Schools	Public	732	12	196	147	63.7	36.3	47.1	66.0
	Profit	6,981	12	1,218	914	77.0	23.0	41.8	73.0
	Nonprofit	1,243	19	678	321	84.7	15.3	37.3	69.4
Subtotal		*8,956*	*13*	*574*	*397*	*68.9*	*31.1*	*44.9*	*68.0*
Correspondence≠		650	10	470	423	na	na	2.8	na
Totals	*Public*	*908*	*15*	*186*	*112*	*69.9%*	*30.1%*	*48.9%*	*82.2%*
	Private	*9,491*	*13*	*1,113*	*771*	*76.3*	*23.7*	*44.1*	*66.6*
	All	*10,399*	*14*	*499*	*321*	*71.5*	*28.5*	*47.7*	*78.7*

*Academic year equivalent equal to nine months or 36 weeks.
**Not adjusted for varying lengths of programs.
***As percent of total number of completions.
≠Correspondence not included in totals

Table D-10: Job Placement, by Size of Institution, 1972

Size of Institutions	Percent of Institutions with Job Placement Services	Percent of Those Placed			Total Percent Placed
		In First Two Weeks	Two Weeks to 2 Months	2 Months to 6 Months	
0 - 49	72.9	32	25	13	70
50 - 99	79.0	33	24	16	73
100 - 499	83.8	32	22	12	67
500 - 999	83.8	26	18	12	56
1,000 - 1,499	66.7	28	23	17	68
<1,500	50.0	9	7	5	26
ALL	78.9	31	23	13	67

SOURCE: Carnegie Commission Survey of Private, Trade, Technical, Business, Specialized, and Vocational Schools and Colleges, 1972.

Table D-11: Noncollegiate Institutions, Revenue by Source, 1972

Type	Control	Number of Schools	Total Revenue ($ million)	Student Charges (percent)	Gov't. Aid	Gifts	Endow. Inc.	Aux. Enterp.	Other	
Trade Schools and Technical Institutes	Public	176	256.6	12.3	76.3	1.1	-	10.3	-	
	Profit	1,125	182.8	72.7	17.2	-	-	0.7	9.4	
	Nonprofit	142	39.3	31.6	44.7	9.4	0.5	4.6	9.2	
	Subtotal	*1,443*	*478.7*	*37.0*	*51.1*	*1.4*	*0.04*	*6.2*	*4.5*	
Business, Cosmetology, Flight, Hospital, Vocational, and Other Schools	Public	732	827.5	5.2	89.3	0.4	-	3.1	2.0	
	Profit	6,981	1,183.8	82.9	2.8	0.1	-	7.6	6.6	
	Nonprofit	1,243	93.5	46.8	13.6	9.9	0.6	3.6	25.5	
	Subtotal	*8,956*	*2,104.8*	*50.7*	*37.3*	*0.7*	*0.03*	*5.7*	*5.6*	
Correspondence		650	597.8	99.4	0.1	-	-	0.5	-	Excluded from totals
Totals	Public	908	1,084.1	6.9	86.2	0.6	-	52.1	16.6	
	Private	9,491	1,499.4	78.1	6.3	0.9	0.1	6.4	8.2	
	All	10,399	2,583.5	48.2	39.8	0.8	0.03	5.8	5.4	

Table D-12: Noncollegiate Institutions, Expenditures by Object, 1972

Type	Control	Number of Schools	Total Expenditures ($ million)	Instruction	Student Aid	Job Placement	Admin.	Plant Operations	Aux. Enter.	Other
Trade Schools and Technical Institutes	Public	176	248.4	70.0	2.7	0.3	7.5	9.4	4.1	6.1
	Profit	1,125	163.9	33.3	0.5	0.8	49.0	13.5	1.1	1.8
	Nonprofit	142	37.6	46.0	0.4	3.0	37.7	9.2	2.8	1.0
	Subtotal	*1,443*	*449.9*	*54.6*	*1.7*	*0.7*	*25.1*	*10.9*	*2.9*	*4.1*
Business, Cosmetology, Flight, Hospital, Vocational, and Other Schools	Public	732	780.8	72.2	2.0	0.5	8.3	10.2	4.7	2.1
	Profit	6,981	1,071.9	37.6	1.6	4.1	25.5	23.6	7.4	0.3
	Nonprofit	1,243	206.7	50.4	4.8	4.4	14.2	19.4	5.5	1.4
	Subtotal	*8,956*	*2,059.4*	*52.0*	*2.1*	*2.8*	*17.8*	*18.1*	*6.2*	*1.1*
Correspondence		650	576.5	20.6	2.9	0.9	43.3	7.7	1.7	22.9
Totals	Public	908	1,029.2	71.7	2.2	0.4	8.1	10.0	4.6	3.1
	Private	9,491	1,480.1	39.1	1.9	3.7	26.8	21.5	6.3	0.6
	All	10,399	2,509.3	52.4	2.0	2.4	19.1	16.8	5.6	1.6

Table D-13: Percentage Distribution of Revenue, by Source and Size of Institution, 1972*

Size of Enrollments	Student Charges (Responses	Endowment Income	Gifts	Government Aid
	%	%	%	%
0-49	70-90	5	6	11
50-99	70-90	3	5	8
100-499	90+	0	2	11
500-999	90+	0	3	12
1,000-1,499	90+	5	3	2
<1,500	90+	0	0	4
All	90+	1	4	10
*NCFPE data***	*78.1*	*0.1*	*0.9*	*6.3*

SOURCE: Carnegie Commission Survey of Private, Trade, Technical, Business, Specialized, and Vocational Schools and Colleges, 1972.

*Actual estimates from individual institutions. Figures will not necessarily add up to 100 percent.

**Average percentage distribution of private institutions from NCFPE survey to compare with Carnegie's data on private institutions.

Table D-14

Percentage Distribution of Expenditures by Items and Size of Institutions, 1972

Size of Enrollments	Physical Plant	Teaching Salaries	Administrative Salaries	Equipment	Student Aid	Advertising	Other Expenses
	%	%	%	%	%	%	%
0-49	20	20	<10	<10	<10	<10	*
50-99	20	20	<10	<10	<10	<10	*
100-499	20	40	<10	<10	<10	<10	*
500-999	<10	20	<10	<10	<10	<10	*
1,000-1,499	<10	20	<10	<10	<10	<10	*
<1,500	<10	20	<10	<10	<10	<10	*
All	*20*	*20*	*<10*	*<10*	*<10*	*<10*	*
*NCFPE data**	*21.5*	*39.1*	*26.8*	*NA*	*1.9*	*NA*	*10.6*

SOURCE: Carnegie Commission Survey of Private, Trade, Technical, Business, Specialized, and Vocational Schools and Colleges, 1972.

*Details for the Carnegie survey will not necessarily add up to 100 percent The unaccounted remainder may be assumed to be unidentified expenses.

**Average percentage distribution of private institutions from NCFPE survey to compare with private institutional data.

Table D-15: Distribution of Institutions, by Percentage of Total Income Received From Student Charges, 1972

Percentage of Income From Student Charges	Percentage of Institutions
>90	58.4
70 - 90	11.6
50 - 70	8.8
<50	21.2

Paper 4

RECENT PROPOSALS FOR FINANCING POSTSECONDARY EDUCATION

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Paper 4

RECENT PROPOSALS FOR FINANCING POSTSECONDARY EDUCATION

This staff report provides brief summaries and critiques of several financing proposals offered and debated on the eve of congressional hearings on the Education Amendments of 1972. Most of these proposals are applicable at the national level rather than at state or local levels. All of them generated considerable debate among researchers and policy makers at the time they were proposed; some of them are still being considered and debated.

Information in this report is the culmination of an analysis of available documents on each proposal as well as staff interviews with a number of persons investigating the financing of postsecondary education. Criticisms offered in the paper--under the heading "Some Critiques"--were formulated by policy makers and interest groups at the time each plan was being debated. These criticisms, then, in no way reflect the National Commission's point of view.

This paper was originally designed to provide Commissioners with background material for analyzing financing proposals. But it also serves as useful information for others to put in perspective any future national financing proposals considered by Congress and other policy makers.

I.

DIRECT ASSISTANCE TO INSTITUTIONS

One form of federal financing for postsecondary education is direct assistance to institutions. There is a wide variety of institutional aid--ranging from aid that is targeted to particular curricular programs, to aid based on enrollments, to broadly defined categorical aid. In providing federal funds to institutions directly, however, the Constitution's separation of church and state must be maintained.

A. Aid Targeted to Particular Curricular Programs

Proponents: Representatives George Miller (Cal.) and Emilio Daddario (Conn.) introduced legislation in the 89th and 90th Congresses.

Status: The House Subcommittee on Education took no action.

Purpose: To offer an alternative means of assisting institutions that will spread funds widely among institutions; to provide excellence in the field of science.

Major Features:

The Miller-Daddario Bill authorizes a total of $150 million to be distributed to institutions by the National Science Foundation on the basis of a three-part formula:

(1) The first $50 million would be awarded to institutions as a graduated percentage of the total sum of project grants that they received during the preceding year from three federal agencies: the National Science Foundation, the Office of Education, and the National Institutes of Health. The maximum award would be $300,000 per institution. The award would be based on the merit of the institution's project proposal.

(2) The second $50 million would be awarded to the states on the basis of the number of their high school graduates. Each state would be directed to distribute its funds in proportion to each institution's share of the total number of credit hours in science taught in the state.

(3) The last $50 million would be distributed to institutions on the basis of advanced degrees earned in science during the preceding three years.

Some Critiques:

(1) The American Council on Education estimated the possible impacts of the following aspects of the bill:

The bill would favor large, multi-campus, research-oriented institutions. (See Table 1.) For example, under the first part of the formula, the University of Illinois would receive $300,000 (1.6 percent of the grants from the three federal agencies), whereas Eastern Illinois University would receive only $26,000 (0.038 percent of the total grants from the three agencies).

Some states would benefit from this proposal more than others, regardless of their relative populations. States with large numbers of high school graduates but relatively low college enrollments would be favored. New Jersey would receive $1.65 million to spend on about 1,585,000 science credit hours ($1.00 per science credit hour); California would receive $4.8 million to spend on 10,585,000 science credit hours ($0.50 per science credit hour). See R.L. Farrell and C.J. Andersen, General Federal Support for Higher Education: An Analysis of Five Formulas (Washington, D.C.: American Council on Education, 1968).

(2) Another possible criticism of the bill is that it benefits only the collegiate sector. The noncollegiate sector, which rarely offers advanced degrees in science, would not benefit under the third portion of the formula.

Table 1: ACE Projected Impacts of the Miller-Daddario Bill (90th Congress)

Institution	Project Award Allocation	Science Credit Hours Allocation	Advanced Degree Allocation	Total Allocation
Calif. Inst. Tech.	$300,000	$ 15,450	$220,000	$ 535,450
Sacramento State College	n/a	72,100	30,000	102,100
Stanford University	300,000	92,000	990,000	1,382,000
Westmount College	21,000	3,090	n/a	24,090
Mt. Saint Antonio Jr. College	n/a	46,350	n/a	46,350
University of Illinois	300,000	433,500	1,265,000	1,998,500
CUNY Brooklyn College	30,000	110,600	95,000	235,600
George Peabody College	60,000	6,300	70,000	136,300
Eastern Illinois University	26,300	35,700	15,000	77,000

SOURCE: R. L. Farrell and C. J. Andersen, General Federal Support for Higher Education: An Analysis of Five Formulas (Washington, D.C.: American Council on Education, 1968). Data were based on 1966 HEGIS Financial Statistics of Institutions of Higher Education. The national totals shown are 1966 funds for research obligated by NSF, OE, and NIH to educational institutions as shown in Federal Funds for Research, Development, and Other Scientific Activities, Vol. XV, 1963-66.

B. Direct Aid to Private Institutions

Proponents:	The New York State Select Committee on the Future of Private and Independent Higher Education, in a report submitted by Chairman McGeorge Bundy to Governor Nelson A. Rockefeller, January 1968.
Status:	Currently implemented in the State of New York.
Purpose:	To ease the financial crisis of private and independent institutions of higher education in New York. (The annual deficit of New York private institutions--in the aggregate--was estimated to be $20-$25 million in 1969-70. And the State Scholarship system did not significantly benefit private institutions.)

Major Features:

(1) Provides direct aid to eligible nondenominational private institutions for general educational purposes. Bases the amount of aid on the number of annual earned degrees conferred at each institution at the rate of $400 for each baccalaureate, $400 for each master's, and $2,400 for each doctorate granted. (Estimated cost: $300 million.)

(2) Establishes a statewide coordination and planning scheme for private institutions. Planning grants would be provided annually for the purpose of interinstitutional--both public and private--cooperation.

(3) The Committee also proposed that the State Constitution, which prohibits direct aid to private, religiously-affiliated institutions, be amended so that all private institutions would be eligible for state aid. This amendment failed.

Some Critiques:

(1) The report did not discuss the question of aid for private two-year colleges.

(2) The cost of implementing the plan would be high. If it were implemented at the federal level in 1968-69, it would have cost about $449 million; in 1973, over $590 million.

(3) Because the New York State plan would reimburse institutions on the basis of degrees granted, it would tend to favor those with high retention rates per student admitted. Though such a criterion might be to some extent desirable, it could well result in lower graduation standards and thus reduce the quality of higher education. See Joseph Froomkin, Aspirations, Enrollments, and Resources (Washington, D.C.: U.S. Government Printing Office, 1970), p. 82.

C. Unrestricted Aid Based on Enrollment Increases

Proponents:	Howard R. Bowen in The Financing of Higher Education (Berkeley: University of California Press, 1971). Also, Bowen in "Tuition and Student Loans in Higher Education," The Economics and Financing of Higher Education in the United States: A Compendium of Papers Submitted to the Joint Economic Committee (Washington, D.C.: U.S. Government Printing Office, 1969).
Status:	Submitted as a paper to the Joint Economic Committee.
Purpose:	To meet any future increases in educational expenditures, without placing additional burden on students in the form of higher tuition and fees.

Major Features:

Bowen proposes these formulas for determining institutional support:

(1) Relate institutional support to the change in national educational expenditures per full-time-equivalent (FTE) student and to the change in a given institution's enrollment.

(2) Relate institutional support to the change in "sectoral"* educational expenditures per FTE student and to the change in a given institution's enrollment.

(3) Relate institutional support to the change in an individual institution's educational expenditures per FTE student and to the change in the institution's enrollment.

The size of the institutional grant would depend upon which of these formulas were used as a basis of computation; Bowen gives this example. In 1965, Ohio State University would have received $8.4 million, if changes in national expenditures per student had been the basis for grant computations; if changes in sectoral expenditures per student had been used, the university would have received $10.8 million; if its own student expenditure patterns had been used, its grant would have been $12.6 million.

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*Bowen defines the term "sectoral" as institutions grouped by type and control. Bowen identifies six sectors: public universities, private universities, public four-year colleges, private four-year colleges, public two-year institutions, and private two-year institutions.

(4) Provisions in the plan, proponents argue, would set a reasonable maximum level of federal outlays, so that costs would not be prohibitive and the government would remain a partner, not a manager, of higher education.

Some Critiques:

(1) The plan might prove to be too costly a federal expenditure. See M. D. Orwig, *Financing Higher Education: Alternatives for the Federal Government* (Iowa City: American College Testing Program, 1971).

(2) A disproportionate amount of federal funds might go to new institutions under this plan. For instance, a new institution whose expenditures per FTE student were relatively low and constant, but whose enrollments were increasing rapidly (like public two-year colleges) might receive more than 50 percent of all its funds from the federal government.

(3) The question of how to compute grants for those institutions undergoing a period of decreasing enrollments was not resolved.

(4) Basing computations on individual institutional expenses (Formula 3) would mean that institutions whose per student expenditures rose would be rewarded; those whose expenditures decreased would not benefit as much. Critics asked: Is it fair or reasonable to penalize institutions that decreased their expenditures per student by being more efficient?

D. The Growth Difference in GNP Formula

Proponents:	Robert L. Farrell and Charles J. Andersen in *General Federal Support for Higher Education: An Analysis of Five Formulas* (Washington, D.C.: American Council on Education, 1968).
Status:	An informal, nonlegislative proposal.
Purpose:	To relieve current pressures on the operating budgets of institutions, prevent tuition increases, and lessen the strain on state tax structures.

Major Features:

(1) Determines federal aid to institutions by periodically relating the growth of the Gross National Product (GNP) to the growth in institutional expenditures for student education.

(2) Allocates the dollar difference between the two kinds of growth to the public and private sectors according to the number of degrees awarded by each.

(3) Then distributes the funds allocated to each sector to institutions on the basis of their enrollments.

Example: In 1963 and 1964, the annual increase in GNP ranged from 5.8 to 9.2 percent, whereas increases in student education expenditures ranged from 12.8 to 17.4 percent in four-year colleges and universities. The Growth Difference Formula produces a hypothetical figure of what student education expenditures would have been had they grown at the same rate as the GNP. This hypothetical figure is subtracted from the actual growth difference between the GNP and student education expenditures. The resultant is the figure that the federal government would provide to all institutions. This figure is then divided among the public and private sectors and then distributed among institutions.

Some Critiques:

(1) This formula suffers from some of the same shortcomings as the Bowen model. For example, low-cost and/or low-quality institutions with expanding enrollments might be benefited more than high-cost and/or high-quality institutions with stable or decreasing enrollments.

E. Capitation Grants for Institutions

Proponents:	Representatives Edith Green (Ore.) and Albert Quie (Minn.) introduced amendments to the Higher Education Act of 1965, April 1971.
Status:	Rejected by the House-Senate Conference Committee, November 1972.
Purpose:	To further subsidize costs of education, not now met by student tuition and fees, while holding institutions accountable for high-quality performance.

Major Features:

The Green Amendments offered two basic formulas for allocating federal funds for general institutional aid:

(1) Two-thirds of the authorized sum would be allocated on the basis of a general formula relating to full-time equivalency enrollments: $100 per FTE lower-division student; $150 per FTE upper-division student; and $200 per graduate student. Institutions would also be entitled to an additional $300 for each of 200 students and an additional $200 for each of 100 additional students on the basis of the total full-time enrollment of the institution.

(2) The remaining one-third of the authorized sum would be allocated on a cost-of-education basis, relating to the amount of federal student assistance that a given institution received. The Commissioner of Education would be authorized to fund: (a) 38 percent of the aggregate of Equal Opportunity Grants, Work-Study payments, and loans to institutions of 3,000 or more students; (b) 50 percent of the aggregate to institutions of less than 1,000; and (c) 46 percent of the aggregate to institutions of more than 1,000 but less than 3,000.

According to the proponents, these formulas would foster diversity among institutions, benefit small colleges, particularly, and hold institutions accountable for a measure of high-quality performance.

Some Critiques:

(1) Tying the definition of an institution's enrollments to credits presents significant problems. The Green Amendment states: "Determinations of enrollment. . . shall be made on the basis of credit earned by students at the institutions during the academic year ending during the fiscal year preceding the fiscal year for which determination is made." But some institutions award credit only for time spent in classes; others award credit for student proficiency as demonstrated by examination and/or for out-of-classroom performance. Under the bill, the Office of Education would be faced with two difficult tasks--formulating a "substantially uniform" definition of "credit" and determining the number of credits that constitute full-time enrollment. Institutions might be discouraged from trying out new educational ventures--such as learning experiences outside the classroom--that would depart from a standard policy of determining credits.

(2) Institutions might be tempted to expand the number of credits their students earn--by increasing workloads, lowering standards of performance, and shortening the time required to achieve credits. (Even some supporters of the Green provision criticized it from this point of view.)

(3) This proposal might heighten the tension between faculty and administration, some critics contended. Traditionally, the faculty--through departments and faculty senates--has set credit policies. The faculty might come under increased pressure from administrators to manipulate credits in order to make the institution eligible for increased federal subsidies. Such tensions could lead to a system of "double bookkeeping."

II.

LOANS TO STUDENTS

Federal money to finance education may also be loaned directly to students. These funds may be loaned on the basis of need, merit, a combination of these two, or some other criterion. Repayment schedules may be scaled to encourage students in certain lines of after-graduate work, such as teaching in inner-city schools. Or they may be linked to the borrower's future earnings.

The rationales behind this financing mechanism vary: some say students should bear the whole cost of education and they should be able to borrow money for such an investment; others say that tuition and fees are accelerating beyond the means of students to keep up and they therefore need aid; still others argue that aid to institutions does not necessarily filter down to students, so that providing loans makes the link more direct.

A. Loans Based on Future Earnings

Proponents:	Milton Friedman, "The Role of Government in Public Education," *Economics and Public Interest* (New Brunswick, 1955).
Status:	An informal proposal.
Purpose:	To place the costs of education on those who benefit.

Major Features:

(1) Proposes the development of a governmental plan whereby individuals could borrow to finance their education and, in return, agree to repay 1 percent of their entire earning careers per every $1,000 borrowed. (See Table 2 for a comparison with other plans.)

(2) To cut down on administrative costs, repayment should be made through income taxes to the Internal Revenue Service.

(3) Shifts the onus of debt on to the recipients, whom Friedman defines as the students, not the society. The social benefits arising from higher education "are always vague and general"; no systematic attempt has ever been made to identify them in such a way as to permit even a rough estimate of their quantitative importance. Until the claim

Table 2:

A Comparison of Alternative Income Contingent Loan Plans

Characteristics / Proposals	Sponsorship	Average Expected Return Over All Borrowers	Maximum and Minimum Amounts Borrowable	Repayment Rate	Income Base	Maximum Repayment Period	Upper Limit on Liability
Friedman Proposal 1955	Governmental IRS	Not Defined	Not Defined	1% per $1,000 borrowed	Not Defined	Entire Lifetime Earning	None
Vickery Plan 1962	Educational Finance Corporation	9%	Up to sum of tuition fees and foregone income	Progressive rate from 0.5% on 1st $1,000 to 1.5% on all income above $2,000	Not Defined	Entire Lifetime Earning	None
Zacharias Plan 1967	Federal Plan	Federal Borrowing	Up to all costs of education (limit $15,000 - 4 years)	1% per $3,000 borrowed	Gross Income	30 years	Rate of interest on Conventional Student Loans 6%
Yale Plan 1971	Institutional	Cost of money plus 1% (7-8%)	$300-800 rising by future tuition increases	0.4% per $1,000 borrowed	Adjusted gross income	35 years or cohort transmission	150% of principal at Yale's borrowing
Duke Undergrad Plan 1971	Institutional	5%	$500 - $1,000	0.36% per $1,000 borrowed	Adjusted gross income	30 years repay loan at 8%	Repay loan at 8%
Carnegie Plan 1970	Non-profit Corporation	6% excluding Federal subsidy for low earners	$2,500 year	0.75% per $1,000	Taxable Income	30 years	Cost of money to loan plan plus mortality measures about 7%

of social benefits is substantiated, "the demand for subsidy in the *public interest* should be regarded as special pleading, pure and simple." Since special pleading by itself is unlikely to lead to appropriate government policy to serve national goals, the full cost of higher education should be shifted to individual recipients.

Friedman justified his proposal as follows: "Provided this proposal was the only way in which government financed vocational or professional training, and provided the calculated earnings reflected all returns and costs, the free choice of individuals would tend to produce the optimum amount of investment."

Some Critiques:

(1) Many economists have argued that several categories of social benefits result from higher education: knowledge; economic growth through increased productivity; desirable political, social, and economic behaviors; geographic, social, and economic mobility; and inter-generational benefits. These benefits, they argue, constitute possible grounds for government subsidization. (See David S. Mundel, "Federal Aid to Higher Education: An Analysis of Federal Subsidies to Undergraduate Education," The Economics of Federal Subsidy Programs: A Compendium of Papers Submitted to the Joint Economic Committee, Part 4 (Washington, D.C.: Government Printing Office, 1972).

B. Loans Financed by Private Finance Corporations

Proponents:	William Vickery, "A Proposal for Student Loans," in Selma Muslikin, ed., Economics of Higher Education (Washington, D.C., 1962).
Status:	An informal proposal.
Purpose:	To perfect the market for investment in human capital in order to increase both the total flow of funds and the efficient use of resources in higher education.

Major Features:

(1) Establishes a loan program for education to be capitalized through private "educational finance corporations" paying dividends on those earnings attributable to the education received (i.e. the investment made).

(2) Applies repayments only to income in excess of what the borrower--on the basis of individual "risk rating"--could be expected to earn if he or she were to terminate education at the point attained when the loan was granted.

(3) Assigns higher "ratings" to those who might reasonably expect high income due to ability, achievement, motivation, and career goals. Then, exempts from the repayment rate a considerable portion of the later earnings of those with highest ratings.

(4) Sets up a progressive schedule of payments, ranging from 0.5 percent ($1,000 borrowed) on the first $1,000 of non-exempt income to 1.5 percent (per $1,000 borrowed) on all income in excess of $2,000 above the exempted earnings.

Some Critiques:

(1) The criteria for being assigned a high rating (being accepted as a "good risk") are income and ability.

(2) Vickery did not endorse a national model of his plan, fearing that the federal government might incur an open-ended obligation to recover all losses that might result from lower-than-projected earnings. See D. Bruce Johnstone, New Patterns for College Lending: Income Contingent Loans (New York: Columbia University Press, 1972), p. 55.

(3) The levels of income at which borrowers would be eligible for some forgiveness of debt would depend on the number of low-earning borrowers and the resources available for debt forgiveness in a particular year. In this way, the government would give some protection to the low earner but would avoid the open-ended obligation implied in a contractual percent-of-income repayment ceiling. The Vickery plan resembles a profit sharing plan that promises to return a certain percent of gross receipts each year to the poorest participants. If the plan had been firmly committed to a policy of forgiving payments in excess of some stipulated percentage of income, it would have recommended the fixed-schedule income contingent model. (See Johnstone, New Patterns.)

C. Loans Administered by an Educational Opportunity Bank

Proponents:	The Panel on Educational Innovation, chaired by Professor Jerold Zacharias of the Massachusetts Institute of Technology. Sent to the U.S. Commissioner of Education, the Director of the National Science Foundation, and the Special Assistant to the President for Science and Technology, 1967.
Status:	Awaiting action by the U.S. Commissioner of Education.

Purpose: To increase the total financial resources available for undergraduate education; increase the freedom of individual institutions to set their own priorities; increase the viability of private institutions of higher learning; increase the number of students from low-income families attending colleges; reduce demands by middle-income parents that expenditures on their children's higher education be made tax deductible; and reduce the disparities in opportunity between rich and poor states.

Major Features:

(1) Establishes the Education Opportunity Bank (Ed Op Bank) as an agency of the federal government to lend students sufficient money to cover tuition, room, board, and subsistence costs at whatever institutions to which he or she was admitted. The funds to be administered by this bank would be paid by the loan repayments of successful borrowers.

(2) Collects through income taxes a repayment rate of 1 percent of annual income for 30 years for every $3,000 borrowed.

(3) Allows students to "buy out" at a rate slightly in excess of the most favorable conventional loan rates.

(4) Loans would not discriminate among recipients on the basis of income. This proposal, proponents say, would increase the access of students in higher education, and it would free funds from private foundations for use for innovation, improvement, and research. It would also shift the costs of higher education to students, while serving as "a device for enabling students to sell participation shares in their future incomes."

Some Critiques:

(1) Two interest groups from the public postsecondary education sector--the National Association of State Universities and Land-Grant Colleges, and the American Association of State Colleges and Universities--criticized the Zacharias plan for dropping direct support to institutions and shifting to a market-oriented delivery system to students. See "Joint Statement in Opposition to the Educational Opportunity Bank," The Chronicle of Higher Education (September 13, 1967).

D. Loans through a National Student Loan Bank, Flexible Forgiveness Provision

Proponents: Alice M. Rivlin in Toward a Long-Range Plan for Federal Financial Support for Higher Education (Washington, D.C.: Brookings Institution, 1969).

Status: Recommended to the President.

Purpose: To provide a form of insurance against the prospects of low earnings; to provide some long-range objectives for federal funds to promote equality of opportunity and strengthen graduate education and research.

Major Features:

(1) Establishes a National Student Loan Bank as an agency of the federal government to provide long-term loans with provisions for limited income-contingent debt forgiveness.

(2) Prepares a variety of fixed schedules for loan repayments allowing up to 30 years and spreading payments over time either in equal or in graduated installments.

(3) Protects low earners through federal forgiveness of debt in a kind of insurance, "risk-pooling." The level of income at which borrowers would be eligible for some forgiveness of debt would depend on the number of low-earning borrowers and resources available for debt forgiveness that year. Each year, however, some portion of the payments due would be borne entirely by the federal government.

(4) Makes the forgiveness provision flexible, depending upon factors in a given year rather than a part of the terms of the loan. The National Student Loan Bank each year would set a minimum income level and/or maximum percentages of income for debt payment on which between 5 and 10 percent of the aggregate repayments due that year would be forgiven.

Some Critiques:

(1) The Rivlin proposal for a National Student Loan Bank, some warn, only provides long-arm loans with provisions for debt forgiveness.

(2) A critic like D. Bruce Johnstone, a strong advocate for income contingent loan plans, argues that the Rivlin plan does not really offer an income contingent loan, for it has "strings attached." It is actually somewhat similar to a profit sharing plan that promises to return a certain percentage of the gross receipts each year to

participants. The problem is, however, that low-earning participants would have to pay the same percentage as well. See D. Bruce Johnstone, New Patterns for College Lending (Columbia University Press, 1972), p. 76.

(3) Others say that Rivlin's unwillingness to endorse a national income contingent plan was based on a fear of an open-ended obligation of the part of the federal government for the recovery of all losses due to lower-than-projected earnings of borrowers.

E. Loans through a National Student Loan Bank

Proponents:	The Carnegie Commission on Higher Education, Quality and Equality: A New Level of Federal Responsibility for Higher Education (McGraw-Hill, 1970).
Status:	The Carnegie Commission still strongly supports its recommendation.
Purpose:	To provide equality of opportunity and equality of education.

Major Features:

(1) Establishes a National Student Loan Bank to extend income contingent loans up to $6,000 for four years of undergraduate study and an additional $10,000 for graduate studies.

(2) Students would repay at a rate of at least 0.75 percent per $1,000 borrowed (a) until they had repaid their loans at a rate on interest to cover the costs of borrowing, administration, and mortality insurance (probably 7 percent); or, (b) until they had repaid for 30 years.

(3) The balance outstanding after 30 years of repayment would be forgiven. In addition, interest charges for borrowers from low-income families would be forgiven during enrollment rather than accruing.

(4) Direct federal appropriations would cover the losses resulting from the forgiveness of interest for low-income students as well as from the 30-year debt forgiveness feature.

Some Critiques:

(1) R. W. Hartman points out that in an era of general capital shortage and price inflation, lenders generally would be unwilling to commit long-term funds for loans. Thus, at such a time, all loan plans would be at a disadvantage, although an income contingent loan plan like

Carnegie's would be much better off than the conventional fixed interest loans. For an expansion of this and other critiques listed here, see R. W. Hartman, *Credit for College* (New York: McGraw-Hill, 1971), pp. 74-79.

(2) In general, economists are in favor of some form of income contingent loan, while bankers and college officials are often opposed. Hartman observes that the degree of commitment to income contingent repayments is related to how strongly one believes that "investment strategy" is a criterion for one's deciding to attend college.

(3) Some strongly argue that any income contingent loan plan unquestionably discriminates against women, for they could not afford repayment if they chose to remain in the home.

F. Income Contingency Loans

Proponents: Yale University, *The Yale Tuition Postponement Option, 1972-73*, Tuition Postponement Office, New Haven, Conn.

Status: Implemented.

Purpose: To generate additional revenue from increased tuitions and fees without increasing student aid and without placing unmanageable burdens either on the current income of the students' families or on the students' own future income.

Major Features:

(1) Yale's Tuition Postponement Option allows students to defer from $300 to $1,150 of tuition and room and board fees in 1972-73. Students selecting this option are obligated to repay Yale 0.4 percent of their annual adjusted gross income (for every $1,000 deferred) over a period not to exceed 35 years.

(2) Each borrower becomes a member of a repayment group (generally including all those who initiate repayments in a given year).

(3) Each borrower will make a minimum payment of $29 per $1,000 borrowed, sufficient to discharge the principal amount deferred over 35 years. A borrower's obligation will terminate at any point when either (a) his or her accumulated repayments equal 150 percent of the loan plus a break-even finance charge based on Yale's borrowing and administrative costs; (b) he or she has paid at least the principal; or (c) the maximum term of 35 years is reached--whichever comes soonest.

(4) To break even, the Yale Plan, it is expected, will require that 7 percent of Yale's students elect the tuition postponement option.

Some Critiques:

(1) Although the Yale Plan demonstrates the legal and technical feasibility of income contingent lending, two questions remain: (a) what are the long run costs of administering such a program; that is, of monitoring the borrowers' incomes and payments; and (b) is the plan viable; that is, will incomes and payments rise as projected?

(2) The relative cost of implementing an income contingent plan at the federal level would depend upon the government's willingness (a) to make guarantees and to expend funds on any plan that features payment periods of more than 10 years; (b) to accept interest charges to some borrowers of over 7 percent; and (c) to agree to income contingent contracts.

III.

GRANTS TO STUDENTS

Usually, the argument about grants to students centers on the question: why should higher education be publicly subsidized? Economists argue that society wants to encourage young people of all income groups to attend some postsecondary educational institution: (1) to reap certain social benefits from higher education; (2) to widen job opportunities; and (3) to redistribute income. Lowering price (tuition) for education is one way to achieve these objectives.

But the problem of encouraging attendance is more complicated, because there are income disparities among the users of higher education. For well-to-do people, consumption of higher education will not be increased by public subsidy. Besides, they will get by with lower tuitions (at public expense) where low-income groups cannot.

To take income disparities into account, some have proposed a combination of charging full-cost tuition (in place of lower public tuition now available because of public subsidies) and providing grants to students based on income. Some have argued that this approach is the only justified rationale for public subsidy, and it will achieve the same social objectives as current subsidies.

A. Graduated Grants Based on Income

Proponents:	W. Lee Hansen and Burton Weisbrod, Benefits, Costs, and Finances of Public Higher Education (Chicago, 1969). The authors were commissioned by the Joint Committee on Higher Education in California.
Status:	Submitted to the California State Legislature, 1970.
Purpose:	To find more equitable systems for financing public higher education, because current systems favor high-income groups.

Major Features:

(1) Replaces the system of state grants to public institutions with a system of grants made directly to students. In this way, institutions would obtain their operating revenue by charging students the full cost of college instruction. Further, by placing money in the hands of students, a greater range of student choice will be available. And by permitting competition among institutions, the authors claim, institutional efficiency will be promoted.

(2) Bases the grants to students on the ability of students and parents to pay for the cost of higher education. The poorer the family, the larger their education grant will be. Low-income students would thus receive more financial aid than they do under the present system, where students from wealthier families do not pay the full cost of their instruction. The tax burden for higher education would actually decrease under this plan, the authors claim.

(3) In their study of financing systems in California, Hansen and Weisbrod found that the largest subsidy went to those institutions with the highest median family income. This fact, coupled with the current method of financing California's public higher education "leads to a sizeable redistribution of income from lower to higher incomes," the authors conclude. In arriving at these findings about the redistributive effects, the authors compared the state subsidies granted to junior colleges, state colleges, and state universities with the median income of the families of students at the three types of institutions.

Some Critiques:

(1) If one compares the distribution of different income-level families at the three types of public institutions (rather than comparing the median income levels, as Hansen and Weisbrod did), one comes up with different findings. J. A. Pechman did just that, finding: "The taxes actually paid in the lowest income classes. . . . are smaller than the

benefits received by families in these same classes." Pechman claims, contrary to the Hansen-Weisbrod thesis, that the current system of public grants to higher education does not favor the wealthy. See Joseph Pechman, "The Distributional Effects of Public Higher Education in California," Journal of Human Resources (Summer 1970).

(2) Another researcher, Ira Sharkansky, argues that California's state and local tax system is not at fault. A recent change in the California state income tax increased the overall progressiveness of the state tax system. Data from the Census Bureau show that the state government provided 71 percent of the state and local expenditures for higher education in 1967-68. By this reasoning, Sharkansky argues, the costs of California's public higher education were borne by a wealthier group than the Hansen-Weisbrod thesis claimed.

IV.

TAX CREDIT PROPOSALS

In addition to the *direct* methods of federal-level financing for postsecondary education, like aid to institutions and/or to students, there are *indirect* methods, like taxation. One such indirect method is the tax credit. Tax relief through tax credits for postsecondary education come in the form of deductions for college expenses or additional exemptions for students and their families. The rationale for tax credit seems to be that tax allowances offer federal aid to postsecondary education without strings. Tax credits, proponents say, do not limit students to specific institutions or behavior once enrolled. Another rationale is to increase the individual user's support for postsecondary education. (See Paper 5 for a fuller account.)

A score of tax credit bills were introduced in Congress in the 1950s and 1960s. None has yet passed both houses of Congress.

A. Graduated Tax Credit Plan

Proponents: Senators Abraham Ribicoff (Conn.) and Peter Dominick (Colo.) introduced legislation in the 90th Congress (1969); cosponsored by Senators Kenneth Keating (N.Y.), Barry Goldwater (Ariz.), and Hubert Humphrey (Minn.)

Status: Pending Senate Finance Committee action; no subsequent action has been taken since 90th Congress.

Purpose: To enable a student's family to use its pre-tax earnings to pay for a college education--with the additional aims of reducing the burden of a tuition gap, equalizing tax benefits, and freeing more scholarships for needy students.

Major Features:

(1) The plan permits taxpayers who pay for tuition, fees, books, and supplies for a student at an institution of higher learning--whether the funder be the student or parents or benefactors--to be eligible for a tax credit of 75 percent of the first $200; 25 percent of the next $300, and 10 percent of the next $1,000. Thus, a credit of $175 would be allowed for expenses of $1,500 (25 percent). The tax credit starts tapering off from an income of $25,000 and then vanishes at $57,500.

(2) 62 percent of the credits would accrue to beneficiaries with an income between $3,000 and $10,000; 91 percent to persons whose income is under $20,000.

(3) The Treasury Department estimated in 1969 that the cost of the Ribicoff-Dominick Plan would initially be $750 million a year, gradually rising to $1.3 billion.

Some Critiques:

(1) The Johnson Administration opposed tax credits on the grounds that they would reduce federal revenues and would likely boost the federal deficit.

(2) Others have declared tuition tax credits unfair because persons who have incomes too low to warrant paying income tax receive no benefit. Tax credits would only benefit the rich or the middle-income people. See Roger A. Freeman, Crisis in College Finance (Washington, D.C., 1965) for an extensive argument based on this premise.

(3) Some have claimed that tuition tax credits would be unfair to those who do not go on to college.

(4) Tax credits, others argue, would not enable the national government to increase its influence on the policies and practices of institutions of higher education. On the other hand, more direct federal grants-in-aid to institutions, they add, would significantly strengthen the supervision and control that the federal government already exercises through some existing financing programs.

B. Across-the-Board Tax Credit Plan

Proponents: John A. Howard, President, Rockford College, Rockford, Illinois, in "Statement on Tax Credit Plans," in Priorities in Higher Education: Report of the President's Task Force on Higher Education (Washington, D.C., 1970).

Status: Submitted to the President's Task Force on Higher Education in 1970; no legislative action followed.

Purpose: To offer an alternative to the current uneven distribution of federal funds for higher education, while costs for administering federal grants increase.

Major Features:

(1) Provides tax credits to individual citizens for gifts they make to colleges and universities.

(2) Each college could use all revenue from tax credits according to its own judgment of the priorities of its current needs. This method of finance would protect the diversity and autonomy of educational institutions. The small college would greatly benefit.

(3) With this technique of financing, there is almost no overhead cost to the government or the college. The taxpayer receives a receipt for his $100 gift to the college, and that receipt is attached to his tax form. No costly bureaucracy is required to administer all the grant programs, and family members would not be burdened with applying for and accounting for their funds as they must now do in the case of federal grants.

(4) Tax credit gifts would tend to be greatest in the population centers, proponents say. Citizens would be inclined to support local institutions, if for no other reason than to keep the funds in the local economy. They would encourage the development of new institutions, public and private, in population centers.

(5) The colleges serving a high percentage of disadvantaged students would have an opportunity to get a larger than average share of the gift tax credit revenues.

(6) The church-state problem would be avoided. Gifts to a church-related college qualify for tax exemptions just as gifts to public or private colleges do.

Some Critiques:

All of the criticisms indicated here are in James Fletcher, "Comments," in *Priorities in Higher Education: The Report of the President's Task Force on Higher Education* (August 1970), pp. 23-25.

(1) The proposal, which emphasizes a reduction of the amount of direct project grants to higher education, would neglect support mechanisms for particular national needs.

(2) It is not wise to put the responsibility for a large fraction of the federal appropriations in the hands of a very large number of people who may or may not be informed or concerned about higher education.

(3) In the long run, this proposal only represents the interest of the upper class groups.

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Paper 5

TAX ALLOWANCE PROPOSALS FOR FINANCING POSTSECONDARY EDUCATION

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Paper 5

TAX ALLOWANCE PROPOSALS FOR FINANCING POSTSECONDARY EDUCATION

Given the ever increasing financial burdens being placed upon individuals and institutions of postsecondary education, education policy makers are considering a variety of means for allocating federal monies. One traditional method of federally financing postsecondary education, especially the public sector, has been the direct expenditure of funds through the following mechanisms:

--Categorical aid (funds provided through grants, contracts, and loans in support of a specific project or goal as designated by the granting agency);

--Aid to students (grants and loans directed to students or through institutions to students to cover all or part of their educational expenses);

--Grants to institutions (funds provided to institutions for broad or undesignated purposes); and

--Revenue sharing (the return to states of certain tax monies collected by the federal government).

A second method has been an indirect form of expenditures through the following mechanisms:

--Tax deductions for individual and corporate contributions to postsecondary institutions; and

--Tax exempt status for the property, income, and capital gains taxes of postsecondary education institutions.

Through these mechanisms in 1972, some $8.1 billion of direct federal expenditure and an unknown amount of foregone taxes on exempt income were allocated to the postsecondary education community. Even with this assistance, the financial burden upon postsecondary education institutions and their students keeps rising.[1] In response,

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[1] See Chapter 5., Financing Postsecondary Education in the United States (Government Printing Office, December 1973).

Congress has been exploring new means of financing postsecondary education, especially several new, indirect financing mechanisms that provide tax allowances for personal costs of education. In 1973 alone, some 50 bills proposing tax allowances to finance postsecondary education were introduced in Congress. They took these two general forms:

--Tax credits (a deduction *from taxes owed* by students or their families for educational expenses incurred during the year); and

--Tax deductions (a deduction *from a taxpayer's income* in the amount equal to the value of, for example, a gift, a loss, or an expense incurred in connection with postsecondary education).

All of the proposed tax allowances--establishing a new flow of funds either to institutions or to individuals--would be implemented through the Internal Revenue Service and would therefore become a part of the graduated tax structure. What this feature means, however, is that many, but not all of the tax allowance proposals being considered in Congress benefit only those who pay taxes; those too poor to pay taxes would not benefit from these methods of financing postsecondary education.

The two basic forms of tax allowances are credits and deductions. As Table 1 illustrates, of the legislation proposing the indirect financing of postsecondary education, tax credits have been introduced more often than tax deductions. The reason may be that tax credits give the same dollar-for-dollar benefit to high-income as low-income taxpayers, because an amount is deducted from the taxes owed rather than from the taxpayer's income. Tax deductions, on the other hand, vary in value in relation to the taxpayer's income, giving greater relief (and subsidy) to the high-income rather than low-income taxpayers.[2] Another reason, and possibly more important for practical

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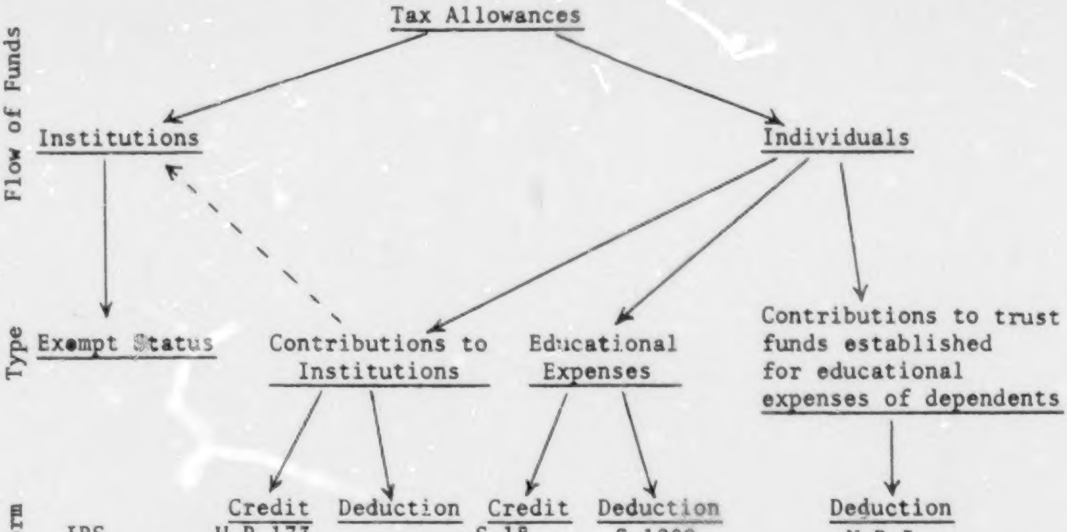
[2] A simplified example of such hidden subsidies is the effect of the federal government's allowable deduction for charity. An individual in the 14 percent tax bracket who gives $100 to charity saves $14 on his or her taxes; an individual in the 50 percent tax bracket giving the same amount saves $50 in income taxes. The government thus contributes $50 (in lost revenue). A gift by an individual in the 14 percent tax bracket is subsidized, in this example, only $14 with the donor contributing $86 out of $100.

Table 1: Classification of Tax Allowances
Introduced in the 93d Congress (1973)



Type	Exempt Status	Contributions to Institutions	Contributions to Institutions	Educational Expenses	Educational Expenses	Contributions to trust funds established for educational expenses of dependents
Form		Credit	Deduction	Credit	Deduction	Deduction
Legislation or Bills	IRS Section 501(c)(3)	H.R.173		S.18	S.1209	H.R.5
		H.R.286		S.215	H.R.54	H.R.866
		H.R.7286		S.468	H.R.202	H.R.1519
		H.R.9872		S.772	H.R.400	H.R.2869
				H.R.171	H.R.434	
				H.R.286	H.R.814	
				H.R.442	H.R.865	
				H.R.787	H.R.1278	
				H.R.1048	H.R.1614	
				H.R.1229	H.R.3229	
				H.R.1396	H.R.3301	
				H.R.1446	H.R.7428	
				H.R.1804	H.R.11596	
				H.R.1980		
				H.R.2074		
				H.R.2088		
				H.R.2725		
				H.R.4501		
				H.R.4518		
				H.R.6311		
				H.R.7525		
				H.R.7708		
				H.R.7894		
				H.R.8367		
				H.R.8328		
				H.R.8784		
				H.R.9318		
				H.R.9870		
				H.R.9872		

implementation, is that tax deduction models are inherently more complex than tax credit models, thus making implementation more difficult.

I.

SOME TAX ALLOWANCE POLICY ISSUES

It is the purpose of this paper to explore the various federal tax allowances for postsecondary education proposed in 1973 and to estimate the benefits and costs of each. But first, a brief inspection of the issues revolving around these indirect mechanisms for financing postsecondary education will establish a context for the analyses presented later in this paper.

The Argument for Investment in Human Capital

A basic, widely-held principle of taxation is that the costs of producing income should be excluded from taxable income. But there is, of course, disagreement about which expenditures are costs of producing income. Are postsecondary education expenses, for instance, a kind of cost of producing income and therefore deductible from taxable income? The federal government has so far answered in the negative.

But a good case can be made for accepting postsecondary education expenses as a legitimate tax deduction. Currently, investments in physical capital are deductible. Why not, then, allow deductions for investments in human capital? When a taxpayer purchases equipment or real property with a limited useful life for business use or for the production of income, the investment cost is depreciated and charged off against income. The gross income is reduced by the depreciated costs of the equipment; no tax is imposed on the invested capital. Similarly, runs the argument, an investment in education, sometimes called an investment in human capital, should be an allowable deduction; it usually brings increased income for the person's entire lifetime. Like a deduction on physical capital, it should be depreciable, for it has a limited useful life in income-producing activity. (A deduction could be computed, for instance, by capitalizing the taxpayer's educational expenditures and depreciating them over the useful life of the original education.)

Purchasing a college education, however, not only involves an investment in human capital but also a kind of personal comsumption. Some argue that the consumption portion should be isolated from the cost of producing income portion of postsecondary education expenses. Then, the consumption portion would not be tax deductible. But the line between the two is certainly unclear. By analogy, if a person goes to ski school and subsequently becomes a ski instructor, presumably his or her expenses could reasonably be attributed to the cost of producing income; on the other hand, if an individual did not become an instructor, then the cost might be entirely consumption.

Following the premise of an education deduction for the costs of producing income in another direction, one next must argue that students, not their parents, may deduct expenditures for postsecondary education from their taxable income. If the government decides that parents undergo a hardship in putting dependents through higher education, then it might fund parents directly, not through tax (or income criteria.

Examples of some recent deductions for investments in human capital include these kinds of proposals:

> --Allowing a student to capitalize education expenses and amortize them through annual deductions over the useful life of the education...;
>
> --Deferral of income tax otherwise due during the years as a student;
>
> --An outright cash scholarship of up to $1,200 reduced by the amount of income tax paid by [students or their families] for the prior years;
>
> --Government loans to students to be repaid by means of a surtax on their incomes during later years;
>
> --Permitting tax deductible contributions over a period of pre-college years to a trust fund and taxing only the principal

upon termination or withdrawal, effectively postponing the tax and allowing interest to accumulate tax free.[3]

The Question of Tax Policy Affecting Choices between Public and Private Institutions

Some students seek a private education, even though their parents have paid taxes to support the public education system. As voluntary enrollees, should students in private institutions be awarded a tax allowance for their tuition? Without an income tax allowance, some argue, families whose children attend high-tuition private colleges and universities are discriminated against by the tax system. Students at low-tuition state schools receive untaxed "scholarships" in the form of discounts on the price (tuition) charged for their education. In addition, the earnings necessary to pay private school tuitions are included in the family's taxable income, which is not true of the earnings of those paying the extensive subsidy for an education provided to public institutions. As the argument continues, a deduction would tend to equalize the tax treatment of all concerned and would thus be analogous to deductions now allowed for extraordinary medical expenses, casualty losses, or charitable contributions.

Are Indirect Expenditures for Private Institutions Constitutional?

Of the private postsecondary education institutions standing to benefit from indirect expenditures for postsecondary education, 60 percent are sectarian. Looming over each of these legislative proposals--when and if one of them should become public law--are the 1st and 14th Amendments to the Constitution, which, if read together, prohibit federal, state, and local governments from making any law "respecting the establishment of religion." The Supreme Court has held for many years that the term "respecting" broadens the scope of the Amendments to prohibit certain kinds of aid to sectarian institutions. To this day, whether financing education through direct or indirect methods, state and federal governments have taken the stance that providing funds to church-controlled *institutions* is illegal; but providing funds to *students* to attend the postsecondary education institution of their choice, even if that choice is church-related, is acceptable.

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[3] Richard L. Desmond, *Higher Education and Tax-Motivated Giving* (Washington, D.C.: American Council on Education, 1967), p. 10.

Until recently, what sectarian aid was disallowed through direct expenditure mechanisms was often assumed to be constitutional if delivered through the indirect mechanisms. As John B. Kirkwood summarized in Tax Incentives for Higher Education in Massachusetts:

> After the Supreme Court had invalidated Rhode Island and Pennsylvania schemes of direct aid to nonpublic elementary and secondary schools in *Lemon* v. *Kurtzman* [403 U.S. 602 (1971)], New York enacted a tax credit plan to accomplish the same result [See *Committee for Public Education* v. *Nyquist*, 413 U.S. 756 (1973)]. Similarly, after a District Court had struck down an Ohio direct aid bill [*Wolman* v. *Essex*, 342 F. Supp. 399 (S. D. Ohio 1972)], the Ohio legislature responded with a tax credit arrangement [See *Kosydar* v. *Wolman*, 353 F. Supp. 744 (S. D. Ohio 1972)].[4]

Recent Court decisions on primary and secondary school financing, however, raise major questions about the constitutionality of some proposed forms of indirectly financing postsecondary education. In *Committee for Public Education* v. *Nyquist* (1973), *Lemon* v. *Kurtzman* (1971), and *Tilton* v. *Richardson* (1971), the Court held:

--There is no constitutional difference between tax assistance and direct aid (*Nyquist*).

--Aid cannot constitutionally be directed only toward sectarian institutions; it must benefit all institutions, public as well as private (*Nyquist*).

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[4] John B. Kirkwood, "Tax Incentives for Higher Education in Massachusetts," mimeographed paper submitted to the Task Force for Massachusetts Higher Education, the Harvard Law School, and the John F. Kennedy School of Government (March 15, 1974), p. 10.

--Aid to church-controlled[5] institutions is not constitutional, for it serves to entangle the goverment with religion (*Nyquist*).

--Aid to church-related[6] postsecondary education institutions is constitutional: if the institution does not restrict admissions to students with a certain religious affiliation; if students are not required to attend religious services; if faculty members are not required to be of a certain religious affiliation, etc. Also, a distinction can be made between students at the elementary or secondary school level and those at institutions of higher learning: college students are less likely to succumb to sectarian influence, and academic freedom serves to protect courses from undue influence (*Tilton*).

--The nature of aid to secular institutions may be limited to such items as books, buses, and nonreligious buildings rather than teachers, direct dollar grants, or other forms that would require excessive federal monitoring to avoid governmental entanglements with religion (*Lemon* v. *Kurtzman* and *Tilton*).[7]

The optimistic assessment of the future of indirect forms of financing education, expressed in 1972 by President Nixon's educational advisor, may now be but a dream: "The only method of aiding students, and indirectly institutions, that is completely safe from constitutional challenge is tax credits."[8]

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[5] Schools restricting admissions to one religious denomination, requiring students to attend religious services, requiring religious courses of a single faith, hiring faculty of one faith, and/or attempting to proselytize or indoctrinate students.

[6] Religious schools without the restrictions found in church-controlled schools.

[7] All-inclusive aid schemes (such as the GI Bill, the Federal Guaranteed Student Loan Program, and the charitable deduction in the federal income tax) may face Court tests for constitutionality based on the Court's finding in *Lemon* that direct grants benefiting religious colleges excessively entangle the government with religion.

[8] R. Freeman, "Federal Assistance to Higher Education Through Income Tax Credits," in The Economics of Federal Subsidy Programs, Part 4, Higher Education and Manpower, Joint Economic Committee, 92d Congress, 2d Session, 665, 673 (1972).

Direct v. Indirect Expenditures

The premise underlying the widely-accepted notion that it is constitutional to provide aid to sectarian institutions through indirect financing mechanisms is weak. Many economists argue that, considering the benefits received, there is really no difference between direct government expenditures on postsecondary education and indirect government expenditures through tax allowances of one sort or another. The Constitution, they reason, should apply in both instances. As Brookings economist Henry Aaron put it:

> If you name me a deduction, I can give you a matching grant or a credit; it will not take any fancy computer to calculate an equivalent formula or a genius to understand it. In some cases, deductions may be simpler; in others, credits or matching grants, but you name the distribution you want and I can give it to you through any one of the three devices. For this reason, it really surpasses my understanding as an economist how the lawyers and courts in general can sustain distinctions among these various tax devices, calling some constitutional and others unconstitutional.[9]

Given the choice between direct and indirect financing mechanisms, even the IRS has argued for direct expenditures. Only when the expenditures are direct does the federal government know the *true* costs of the financing mechanism. With the indirect form of expenditures, by contrast, hidden subsidies may never be fully counted. That is deductions at the federal or state levels are tax-reducing provisions, and as such, are often overlooked as federal expenditures when policy makers are searching for ways to cut back their budgets. In fact, only recently did the federal government even attempt to *estimate* its tax expenditures: they have long remained hidden and forgotten.

Before accepting tax allowance proposals, policy makers will not only decide upon these basic issues, but they will also need to analyze the costs and benefits of each proposal. The next section of this paper introduces a model that policy makers and analysts can use to examine tax credit proposals in particular. And the last two sections illustrate how the model can be used; they array data about five representative tax credit proposals, using the model for the calculations.

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[9] See Tax Institute of America, *Symposium: Tax Impacts on Philanthropy* (1972).

II.

TAX ALLOWANCE MODELS

To analyze tax allowance proposals fully, it is necessary to develop a basic analytical model that can be used to break the various legislative proposals down into their component parts. With this model, the costs and benefits for various types of tax allowances can be determined for taxpayers (beneficiaries), public and private postsecondary educational institutions, and the federal government. The analysis of costs and benefits in this paper, however, is limited to tax credit proposals, because tax deduction proposals are not as numerous as tax credit bills and because they are rather complex. Appendix A of this paper develops a mathematical construct for tax deduction bills and provides a list of such bills recently introduced in Congress.

This paper is further focused on one of two major categories of tax credit proposals--credits for taxpayer dependents attending postsecondary educational institutions, instead of credits for contributions to these institutions. (See Table 2.) Although all bills in this category are of course important, the analysis is restricted to those graduated tax credits with a stated maximum, since they appear with greatest frequency.

In developing a mathematical construct (an analytical model) for analyzing tax credit proposals, the variants of the bills were categorized. Most tax credit proposals take the form of one of the following three variants:

1. An amount based on an expense scale for educational expenses (usually tuition and fees) is subtracted directly from the taxpayer's bill;
2. An amount based on an expense scale for educational expenses (usually tuition and fees) is subtracted directly from the taxpayers' bill or paid to them if

Table 2: Recent Tax Credit Proposals
(93d Congress, 1973)

I. Credit for contributions to postsecondary educational institutions

  A. By corporations

    1. 5 percent of tax or $5,000, whichever is less: *H.R.286*

    2. 10 percent of tax or $5,000, whichever is less: *H.R.173*

  B. By individuals

    1. 20 percent of tax or $500, whichever is less: *H.R.286, H.R.972*

    2. 20 percent of tax or $200, whichever is less: *H.R.7286*

    3. 20 percent of tax or $100, whichever is less: *H.R.173*

    4. 24 percent credit against tax for personal exemption and personal deduction in lieu of existing deductions, with limitations: *H.R.1040, H.R.1041, H.R.6490, H.R.7050*

II. Credit for taxpayer's dependents attending postsecondary educational institutions

  A. Straight percentage on amount of credit

    1. 30 percent of tuition and fees: *H.R.1129, H.R.4518*

    2. 50 percent of expenses or $1,500, whichever is less, with student and taxpayer repaying credit with interest: *H.R.5939, H.R.7894*

    3. A maximum of $600 in tuition and fees: *H.R.9872*

  B. Graduated credit with a stated maximum credit allowed

    1. $250 per year: *H.R.2725*

    2. $325 per year: *H.R.1396, H.R.8784, S.215, S.772, S.18*

    3. $350 per year: *S.468*

    4. $525 per year: *H.R.1146, H.R.2074, H.R.7525, H.R.9870*

    5. $675 per year: *H.R.787, H.R.1980, H.R.4501, H.R.2208, H.R.8327, H.R.8328, H.R.7738, H.R.171*

they pay no income tax;

3. An amount based on an expense scale for educational expenses (usually tuition and fees) is credited to the taxpayer and adjusted by income category. Usually the amount of the credit is diminished for taxpayers of high income.

From these three variants of a tax credit proposal, a model can be derived that will provide information on the cost (foregone income tax revenues) of alternative proposals. The cost is primarily dependent on two factors: (1) the dollar amount of the benefit received by each person enrolled; and (2) the number of people (enrollment) receiving the benefit. The dollar amount of the credit (or benefit received) is in turn dependent upon two factors: (a) the educational expenses of the enrolled student; and (b) when applicable, the income category of the family of the enrolled student. These relationships can be stated mathematically in the following way:

$$C_T = \Sigma \lambda_j [E_{ei} \cdot B_e \cdot A_i]$$

where C_T = Cost to the federal government in foregone income tax revenues

E = Enrollments

B = Benefit to be received (amount of credit)

A = Adjustment factor for income category

λ = Adjustment factor for eligible taxpayers who will take advantage of the credit

e = Expense category

i = Income category

j = 1,2,3...as needed for multiple adjustment factors

The analysis of tax credits requires two kinds of variables--those prescribed by the legislative proposals themselves and those determined by the external demand for postsecondary education.

In the proposals themselves, there are in turn two variables. One is the benefit (or credit) to be received (B). This variable can be of the following form:

(1) A specific percentage of educational costs, such as 10 percent of the first $200.

(2) A specific percentage of educational costs with a benefit ceiling, such as 10 percent of the educational costs with a benefit ceiling of $200.

(3) Graduated amounts depending on educational costs with a benefit ceiling, such as 100 percent of the first $200 in costs, 25 percent of the next $300, and 5 percent of the next $1,000 in costs, with an upper limit of $325 in benefits.

The other variable within a tax credit proposal is the adjustment for income category (A). It is usually in the form of a specified percentage reduction of credit based upon maximum adjusted gross income levels, such as a reduction in credit of 3 percent for every $1,000 in income over $15,000 in adjusted gross income.

The variables describing the external demand for tax credits under these proposals are enrollments (E) and the proportion of eligible students who apply (λ).

Enrollment Projections

In computing foregone federal income tax revenues of tax credit proposals, it is necessary to estimate the number of people who might benefit from each proposal. Further, the amount of the benefit is dependent on what educational expenses the beneficiary incurs, and, in some cases, what family income level the beneficiary comes from. For this reason, enrollment figures computed and arrayed by expense category and by family (or student) income category are needed. A typical computation requires, for example, that one knows how many students enrolled in an institution (a) spend between $500 and $1,000 per year in tuition and other educational expenses and (b) have an adjusted gross family or student income between $10,000 and $15,000.

For this analysis, projections for fiscal years 1977 and 1980 were derived; 1977 was selected as the first year by which policy changes could be implemented and 1980 as the time by which a new policy trend could be detected. Enrollment projections were differentiated by level of student, type of institution, income category, and expense category (tuition and fees). The derivations of projected enrollments for 1977 and 1980 are shown in Tables 3 and 4. Notice that four expense categories are used: $0-$500; $500-$1,000; $1,000-$1,500; and >$1,500. These expense categories were assumed to correspond to the average costs (tuition charges) of certain postsecondary educational institutions: the $0-$500 category was assumed to correspond to the average tuition at public two-year institutions; $500-$1,000, to public four-year institutions; $1,000-$1,500, to noncollegiate institutions; and >$1,500, to private two- and four-year institutions. Thus, in Tables 3 and 4, enrollment estimates under each expense category were associated with these institutional types. For a complete derivation of the enrollment projections used in this analysis, turn to Appendix B.

Three limitations on the projections affect the model's results for both the costs and benefits. First, it can be argued that the allocation of the expense categories to institutional types is not an accurate method for determining costs, because these institutions have a wide distribution of costs, not a single cost. However, these figures were the only ones available; and for the sake of simplicity and estimation purposes, they were deemed adequate. Second, most of the tax credit proposals stipulate that the amount of expenses shall be adjusted by the amount of scholarships, grants, education and training allowances, or other aid received. The complexity of including this adjustment in the projection, however, proved to be too great. If such a calculation had been included, the total benefits would have been lower than shown. A third limitation in the data was assumed to offset the effects of this missing adjustment: data on part-time or summer school students were unavailable. Our estimate of foregone income may be low, given the exclusion of these students; the U.S. Department of Treasury estimates

Table 3: Projected Enrollments, by Income Category and Expense Category, Fiscal 1977

	Expense Category				
Income Level	$0-500	$500-1,000	$1,000-1,500	> $1,500	*Total*
< $3,000	75,620	162,356	34,640	74,076	*346,679*
$3,000-6,000	228,850	553,291	181,860	178,704	*1,142,705*
$6,000-7,500	145,270	280,310	121,240	111,724	*658,544*
$7,500-10,000	238,800	643,342	145,488	238,775	*1,266,405*
$10,000-15,000	577,100	1,333,117	554,240	631,774	*3,096,231*
$15,000-25,000	378,100	1,177,859	514,404	567,424	*2,637,787*
> $25,000	199,000	479,469	181,860	376,533	*1,236,862*
Total	*1,990,000*	*4,642,050*	*1,732,000*	*2,178,000*	*10,385,213*
Average Expense	*$192*	*$583*	*$1,326*	*$2,039*	

SOURCE: NCFPE staff calculations; see Appendix B.

Table 4: Projected Enrollment, by Income Category and Expense Category, Fiscal 1980

	Expense Category				
Income Level	$0-500	$500-1,000	$1,000-1,500	>$1,500	*Total*
< $3,000	81,244	236,186	36,760	75,688	*429,878*
$3,000-6,000	245,870	562,155	192,990	186,440	*1,183,555*
$6,000-7,500	156,074	284,600	128,660	14,187	*683,521*
$7,500-10,000	256,650	521,330	154,392	243,974	*1,176,346*
$10,000-15,000	620,020	1,014,855	588,160	645,520	*2,868,550*
$15,000-25,000	406,220	1,193,426	545,886	579,669	*2,725,201*
> $25,000	213,800	486,936	192,990	384,673	*1,278,399*
Total	*2,138,000*	*4,708,000*	*1,838,000*	*2,226,250*	*10,910,450*
Average Expense	*$228*	*$691*	*$1,500*	*$2,415*	

SOURCE: NCFPE staff calculations; see Appendix B.

that another $0.5 billion should be added to the estimates to account for such an exclusion.[10] The net of these limitations is assumed to be zero.

Derivation of λ

The tax credit model provides the facility for testing the impact of alternative assumptions about the percentage of those eligible who will in fact apply for and receive benefits from a tax credit proposal (λ). The U.S. Department of the Treasury estimates that approximately 90 percent of those eligible will utilize these credits.[11] The Department offers no variation of this figure by income category; therefore, 90 percent--with no variation by income class--was the figure used by the NCFPE staff for the calculations presented in this paper.[12] The analytical model used, however, could easily calculate the impact of variations in student participation in a tax credit program.

III.

THE BENEFITS AND COSTS OF REPRESENTATIVE TAX CREDIT PROPOSALS

For this analysis, five proposals, introduced in the 93d Congress, 1st Session (1973), were selected as typical of several pieces of tax credit legislation. Each of the five selected represents a particular type of tax credit proposal that has allowances for a graduated credit with a given maximum credit (Variant 3, p. 176). These bills include S.18 and S.215 ($325 credit maximum), S.468 ($350 credit maximum), H.R. 2074 ($525 credit maximum), and H.R.171 ($675 credit maximum). S.215

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[10] U.S. Department of Treasury, telephone interview with T. Reeves, October 1973, by William A. Sanda.

[11] U.S. Department of Treasury, interview with . Reeves.

[12] In order to facilitate computation, a FORTRAN model was written using the model structure discussed in this section. A listing of the model can be found in Appendix D.

and S.18 are here designated Type A; S.468, Type B; H.R.2074, Type C; and H.R.171, Type D.

Table 5 outlines the main features of these bills. The exact payment schedules for these proposals may be found in Appendix E. Most of these bills, with the exception of S.468, provide graduated benefits to cover up to a maximum of $1,500 in educational costs; beyond this amount, benefits remain constant at the stipulated maximum credit limit. All of the bills, except H.R.2074, provide for adjustment factors for decreasing credit above a set adjusted gross income. The idea behind such factors is to lower tax credits to high-income taxpayers.

None of these bills provides benefits to those with adjusted gross incomes below $3,000, the lowest taxable income. Attempts to include a "negative income tax" provision to allow nontaxpayers some benefits for educational expenses have failed to gain much support in Congress.

The bills are generally designed to provide a higher percentage of benefits for the lowest category of educational expenses (category $0-$500). The percentage of benefits decreases as the expenses increase. Thus, credit impact will be greater for those with lower expenses, because the credit given will more evenly match the expenses.

Benefits

Type A (up to $325 credit). The two alternatives in this group, S.215 and S.18, provide the same maximum credit, but they differ in two major respects. First, they pay different percentages for personal educational costs: the beneficiary of S.215 (designated Type A1) may receive 75 percent of the first $200 in expenses while the beneficiary of S.18 (designated Type A2) would receive 100 percent. In Type A1, the beneficiary may receive 10 percent of the last $1,000 in expenses, while in Type A2, he or she may receive only 5 percent (see Table 5). Second, the upper income benefit limits are different--$25,000 in Type A, and $15,000 in Type A2. Type A2 decreases benefits by $20 for each $1,000 of adjusted gross income beyond $15,000 while Type A1 decreases benefits by $10 for each $1,000 in income over $25,000.

Table 5: Financial Characteristics of Five Typical Tax Credit Proposals, 1973

Configurations	Maximum Credit Limit	$325		$350	$550	$675
	Type	A1	A2	B	C	D
	Bill	S.215	S.18	S.468	H.R.2074	H.R.171
	Expenses					
Graduated Scaling Factor (%)	Up to $200	75%	100%	100%	75%	100%
	Next $300	25	25	50	50	75
	Next $1,000	10	5	*	25	25
Upper Income Limit For Regular Credit		$25,000	$15,000	$18,000	**	$25,000
Percent Reduction Over Upper-Income Limit (A)		*	**	**	---	*

Notes: *Only allows tax credit for expenses of up to $500
**Places no restrictions on income level.

Type A2 thus provides for higher benefits to low- and middle-income families than does Type A1--by an average of 10 percent in benefits for each income category up to $15,000. Under Type A2 benefits drop off sharply to almost zero beyond $25,000 in income; Type A1 is not so drastic in its effect upon high-income taxpayers.

According to NCFPE staff projections for Type A1, the average benefits in 1977 would be $248 for taxpayers with incomes below $15,000; $260 for the $15-25,000 income group; and $131 for the over-$25,000 income group. (For all types of tax credits dicussed in this section, Table 6 lists projections for 1977 and 1980.)

By contrast, according to NCFPE staff projections for Type A2, the average benefits in 1977 would be $275 for taxpayers with incomes below $15,000; $164 for the $15-25,000 income group; and $13 for the over-$25,000 income group.

Type B (up to a $350 credit). Typical of this category is S.468, which provides benefits for the middle expense category ($500-$1,000) at a rate of 25¢ to 50¢ for each dollar spent. This bill decreases benefits by $20 for each $1,000 of adjusted income over $18,000.

According to NCFPE staff projections for Type B, the average benefits in 1977 would be $318 for taxpayers with incomes below $15,000; $257 for the $15-25,000 income group; and $88 for the over $25,000 income group.

Type C (up to a $550 credit). Typical of this group is H.R. 2074, which places much greater emphasis on credit for high-income taxpayers than Types A and B do. This bill has no provisions for limiting benefits of high-income recipients, and its total maximum benefits exceed Type B's by over $200.

Table 6: Average Benefits Per Person, by Income Category, Under Five Typical Tax Credit Plans, Fiscal 1977 and 1980

Income Category	Type A1		Type A2		Type B		Type C		Type D	
	1977	1980	1977	1980	1977	1980	1977	1980	1977	1980
$3,000-15,000	$248	$254	$275	$282	$318	$321	$356	$378	$465	$488
$15,000-25,000	260	264	164	193	257	260	381	396	494	519
>$25,000*	131	133	13	28	88	95	390	408	452	469

SOURCE: NCFPE staff calculations.

*These averages are gross estimates. A benefit is wholly dependent on income of recipient, except for Type C. See Appendix B for the actual payment schedules for each class of recipients.

According to NCFPE staff projections for Type C, the average benefits in 1977 would be $356 for taxpayers with incomes below $15,000; $381 for the $15-25,000 income group; and $390 for the over-$25,000 income group.

Type D (up to a $675 credit). Typical of this category is H.R.171, which provides the greatest amount of credit for the middle expense category (50¢ per $1.00 more than Type A and 25¢ per $1.00 more than Types B and C). This bill decreases benefits by $10 for each $1,000 in adjusted gross income over $25,000.

According to NCFPE staff projections for Type D, the average benefits in 1977 would be $465 for taxpayers with incomes below $15,000; $494 for the $15-25,000 income group; and $452 for the over-$25,000 income group.

Table 6 shows the projections for 1977 and 1980 of the average benefits of all five tax credit bills under discussion. It should be emphasized that these averages are for all expense ranges included together. It must be kept in mind that these figures are obtained by averaging over all expense categories for a particular income level and bill. Appendix D details the actual payment rate for each expense level and income level. With this data, a comparison of the benefits provided to three major income categories is now possible.

Benefits for the $3,000 to $15,000 income category. A major rationale for all of these tax credit proposals is to provide financial benefits to low- and middle-income families to offset the rising expenses of a postsecondary education. Because approximately 75 percent of students attend lower-price public institutions, these bills tend to allow a proportionately higher credit to the lowest expense category ($0-$500).

Type A1--by virtue of its lower benefits for expenses under $500--provides the lowest benefits to this income group ($248 in 1977). The average benefits increase between 13 percent and 30 percent with each tax credit group, with Type D providing the most benefits to this income group ($465 in 1977). People attending low cost community colleges would receive less from Types A1 and C than they would under the other bills, because these bills allow less benefit for the first $200 in expenses than do the other bills.

Benefits for the $15,000 to $25,000 income category. Type A2 provides the lowest benefits ($164 in 1977) while Type D provides the most ($494 in 1977). About 25 percent of students in this income category attend higher cost institutions ($500 in costs). Since Type A2 puts restrictions (higher scaling factors) on this income group, it has the lowest benefits; Type D provides average benefits that are commensurate with the educational expenses of this income category.

Benefits for the $25,000 income category. Again, Type A2 provides the lowest average benefits ($13 in 1977); and Type D, the highest ($452 in 1977). Type A2 places the severest restrictions on higher income recipients while Type D allows the greatest scaling factor for higher expenses. The other bills are intermediate between these two. It again should be pointed out that these bills are designed to limit benefits to upper-income recipients.

Foregone Income

While the recipients gain from these forms of tax allowances, the federal government must lose some tax revenues. The costs of these tax credit proposals are in the billions. For Fiscal 1977, the federal government's foregone revenues range from $1.94 billion for Type A2 to $4.17 billion for Type D (Table 7). Projected tax credits averaged over all income categories for 1977 range from $215 per person for Type A2 to $461 per person for Type D (Table 8). For Fiscal 1980, these foregone revenues increase, ranging from $2.13 billion for Type A2 to $4.65 billion for Type D (Table 9). Projected tax credits averaged over all income categories for 1980 increase, ranging from $228 for Type A2 to $498 for Type D (Table 10). For the total estimated tax credit for Fiscal 1977 and 1980, arrayed by income and expense categories, see Appendix F.

Table 7: Foregone Income to the Federal Government Under Five Typical Tax Credit Plans, Fiscal 1977

(In Thousands of Dollars)

Income Category	Type A1	Type A2	Type B	Type C	Type D
<$3,000	0	0	0	0	0
$3,000-6,000	$254,803	$282,468	$323,552	$360,946	$473,000
$6,000-7,500	147,155	162,649	186,785	210,297	274,100
$7,500-10,000	283,526	314,027	364,960	401,390	526,700
$10,000-15,000	708,262	776,889	893,285	1,025,558	1,332,000
$15,000-25,000	618,251	391,651	610,956	904,891	1,173,000
>$25,000	146,164	14,959	98,078	433,676	392,000
Total Foregone Income	*$2,158,156*	*$1,942,643*	*$2,481,616*	*$3,336,758*	*$4,171,500*

SOURCE: NCFPE staff calculations using data and model derived in this paper.

Table 8: Average Tax Credits Per Person, by Income Category, Under Five Typical Tax Credit Plans, Fiscal 1977

Income Category	Type A1	Type A2	Type B	Type C	Type D
< $3,000	0	0	0	0	0
$3,000-6,000	$247	$274	$319	$351	$460
$6,000-7,500	248	274	315	354	462
$7,500-10,000	248	275	320	352	462
$10,000-15,000	254	278	321	367	477
$15,000-25,000	260	164	257	381	494
> $25,000	131	13	88	390	452
Total Average Costs	*$239*	*$215*	*$275*	*$369*	*$461*

SOURCE: NCFPE staff calculations using data and model derived in this paper.

Table 9: Foregone Income to the Federal Government Under Five Typical Tax Credit Plans, Fiscal 1980

(In Thousands of Dollars)

Income Category	Type A1	Type A2	Type B	Type C	Type D
< $3,000	0	0	0	0	0
$3,000-6,000	$269,174	$300,540	$343,955	$400,175	$518,715
$6,000-7,500	155,583	172,828	196,226	232,282	299,726
$7,500-10,000	296,116	331,288	380,512	439,894	570,903
$10,000-15,000	745,968	822,743	934,776	1,126,499	1,449,370
$15,000-25,000	648,760	473,931	637,029	930,809	1,272,491
> $25,000	153,054	32,494	109,071	470,008	539,504
Total Foregone Income	*$2,268,595*	*$2,133,824*	*$2,601,569*	*$3,659,347*	*$4,650,709*

SOURCE: NCFPE staff calculations using data and model derived in this paper.

Table 10: Average Tax Credits Per Person, by Income Category, Under Five Typical Tax Credit Plans, Fiscal 1980

Income Category	Type A1	Type A2	Type B	Type C	Type D
< $3,000	0	0	0	0	0
$3,000-6,000	$253	$282	$323	$376	$487
$6,000-7,5000	253	281	319	378	487
$7,500-10,000	252	281	323	373	485
$10,000-15,000	258	285	324	390	502
$15,000-25,000	264	193	260	396	519
> $25,000	133	28	95	408	469
Total Average Costs	*$243*	*$228*	*$278*	*$391*	*$498*

SOURCE: NCFPE staff calculations using data and model derived in this paper.

IV.

THE IMPACT OF TAX CREDITS ON STUDENT INCOME ACROSS INSTITUTIONAL TYPES

In the previous discussion, tax credits have been analyzed in terms of foregone income to the federal government and of benefits to taxpayers of varying income categories. It would be helpful now to look at how this benefit is distributed among the various types of educational institutions, according to the frequency with which dependents of taxpayers attend various types of institutions.

Tables 11 and 12 present total and average tax credits by institutional type (public, private, and noncollegiate) for fiscal years 1977 and 1980. Table 13 presents the ratios of credit distributed among these institutions.

Total benefits for students in public institutions are roughly two to three times greater than benefits to students in private and noncollegiate institutions. This is to be expected, since there are roughly 3.5 times more students in public institutions. Type A1, A2, and B bills show the evident disparity between public, private, and noncollegiate total benefits (roughly 2.7 to 1) whereas Type C and D bills allow for a slightly narrower difference in the ratios (roughly 2 to 1). This difference in ratios is also to be expected, because Type A1, A2, and B bills are designed primarily to assist students with lower expenses while Type C and D bills provide greater benefits for students with higher expenses. Even though the latter category of bills narrows the gap between public and private total benefits, it costs from one and a half to two times more in foregone federal income than Type A1, A2, and B bills.

Note also that even though a greater proportionate share of the total credit goes to students in public institutions, a higher average credit (from one and a half to two times more) is received by students in private and noncollegiate institutions. However, this average amount is only between one-sixth and one-fourth of the total expense of private and noncollegiate institutions; by contrast, students in public institutions will receive about one-half of their

Table 11: Amount of Tax Credits Received by Students Enrolling in Each Institutional Type, Fiscal 1977
(In Thousands of Dollars)

Institutional Type Bill	Benefits Received by Students at Public Collegiate Institutions	Benefits Received by Students at Private Collegiate Institutions	Benefits Received by Students at Noncollegiate Institutions	Cost in Foregone Income to the Federal Government
Type A1 (S.215)	$1,150,134 (174)*	$560,626 (296)	$441,396 (259)	$2,152,156
Type A2 (S.18)	1,105,614 (167)	463,902 (211)	373,121 (219)	1,942,637
Type B (S.468)	1,474,596 (213)	544,281 (247)	462,708 (272)	2,481,585
Type C (H.R.2074)	1,519,650 (230)	961,942 (437)	775,295 (456)	3,336,894
Type D (H.R.171)	1,958,439 (297)	1,258,866 (572)	954,293 (561)	4,171,589

SOURCE: NCFPE staff calculations using data and model derived in this paper.

*Figures in parentheses are the average credit.

Table 12: Amount of Tax Credits Received by Students Enrolling in Each Institutional Type, Fiscal 1980

(In Thousands of Dollars)

Institutional Type / Bill	Benefits Received by Students at Public Collegiate Institutions	Benefits Received by Students at Private Collegiate Institutions	Benefits Received by Students at Noncollegiate Institutions	Cost in Foregone Income to the Federal Government
Type A1 (S.215)	$1,195,495 (181)*	$573,921 (261)	$497,177 (276)	$2,266,593
Type A2 (S.18)	1,184,014 (179)	487,132 (221)	432,678 (241)	2,103,824
Type B (S.468)	1,553,207 (228)	557,318 (253)	491,024 (273)	2,601,549
Type C (H.R.2074)	1,700,465 (250)	1,066,459 (485)	892,523 (496)	3,659,447
Type D (H.R.171)	2,315,388 (340)	1,289,602 (586)	1,085,719 (603)	4,690,709

SOURCE: NCFPE staff calculations using data and model derived in this paper.

*Figures in parentheses are the average credit.

Table 13: Ratio of Public Collegiate, Private Collegiate, Noncollegiate Tax Credits, by Program, Fiscal Years 1977 and 1980

	Total Enrollment Ratio of Public:Private:Noncollegiate	
	FY 1977	FY 1980
Average National Expense for Postsecondary Institutions	1:4.4:2.9	1:4.2:2.9
A National Enrollment Ratio	3.8:1.3:1	3.7:1.2:1

	Credit Ratio of Public:Private:Noncollegiate	
Program	FY 1977	FY 1980
Type A1 (S.215)	2.7:1.3:1	2.4:1.1:1
Type A2 (S.18)	2.8:1.2:1	2.7:1.1:1
Type B (S.468)	3.1:1.2:1	3.2:1.1:1
Type C (H.R.2074)	2:1.3:1	1.9:1.2:1
Type D (H.R.171)	2:1.3:1	2.1:1.1:1

SOURCE: NCFPE staff calculations using data and model derived in this paper.

expenses in credit. Again, a wide disparity in credit impact is evident.

V.

CONCLUSION

To select a tax credit proposal, policy makers must first determine (a) whether or not indirect financing mechanisms are an appropriate economic solution to financial distress facing both low- and middle-income families and postsecondary educational institutions; and (b) whether or not deductions for human capital (educational expenses in this case) are on a par with deductions for property now allowed by the U.S. tax code. If the answers are affirmative, these kinds of questions must be resolved: how much income should the federal government be expected to forego in financing tax allowance proposals; what income groups should be targeted for increased aid through tax allowances; and what groups, if any, should receive little or no aid?

Each tax allowance proposal has its own merits and demerits, and therefore, selecting the proper bill depends upon objectives established by Congress. If Congress is concerned about reducing total revenues foregone by the federal government, then, of the bills analyzed, Type A or B proposals would be the better selections. If not, Type C or D proposals would be selected. If Congress wants to provide more benefits to lower-income people, then Types A2, B, C, or D would be appropriate. If stringent restrictions are to be placed upon high-income beneficiaries, then Types A2 or B would be better. If no restrictions are to be placed upon upper-income families, then Types A1, C, or D can be used.

APPENDIX A

TAX DEDUCTION MODELS

Tax deduction proposals usually take one of two forms:

1. A deduction from gross income is authorized for educational expenses;
2. A deduction from gross income is authorized for amounts contributed to a fund established by the taxpayer for financing a postsecondary education for one's dependents.[13]

A tax deduction model applicable to both forms of tax deductions can be developed to determine the cost to the federal government in foregone tax revenues. As in the tax credit model discussed in Section II of this paper, the cost is primarily dependent on two factors: the dollar amount of benefits received by each person enrolled (or received by his or her family); and the number of people (enrollments) deriving the benefit. These relationships can be stated mathematically as follows:

$$C_T = \Sigma \lambda_j [E_i * B_i]$$

where C_T = Cost to the federal government in foregone income tax revenues

E = Enrollments

B = Benefit to be received (amount of deduction)

λ = Adjustment factor, such as what percentage of those who are eligible will take advantage of the proposal

e = Expense category

i = Income category

j = 1,2,3...as needed for multiple adjustment factors

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[13] Designed to encourage private financing of postsecondary education, this kind of tax deduction proposal emphasizes the taxpayer's "ability to pay" and provides some financial protection for families with more than one dependent enrolled at a postsecondary education institution.

To calculate the benefits derived (B) is very complicated--one of the reasons that tax credit proposals are introduced more often than tax deduction proposals. The calculation is dependent upon the form of the tax deduction proposal.

1. If the deduction is given for expenses incurred in obtaining a postsecondary education, then a maximum figure is usually allowed as a deduction. The benefit received is then tempered by the marginal rate of paying income tax. Mathematically, this can be expressed as follows:

$$B_i = b * r_i$$

where b = Maximum benefit allowed

r_i = Marginal rate of income tax by income category

B_i = Benefit by income category to be used in the tax deduction model

2. If the deduction is given for contributions to a fund established by the taxpayer to finance the education of his or her dependents, the calculation of benefits derived is even more complicated. The dollar amount of the deduction is dependent on the number of beneficiaries of the fund; the taxpayer's adjusted gross income; or a maximum figure specified in the proposal.[14] To compute the dollar amount of benefits by income category (B_i) for this kind of proposal requires calculations for submodels (β_1, β_2, and β_3) for each income category. In mathematical terms:

$$\beta_1 = b_1 * d_i$$

$$\beta_2 = p * i$$

---

[14] For instance, proposals might provide that the amount allowable "shall not exceed the lesser of" one of the following: $500 times the number of beneficiaries; or 10 percent of the taxpayer's adjusted gross income for the taxable year; or $2,500.

$$\beta_3 = b_2$$

$$B_i = ([\text{the smallest } \beta] - 0) * r_i$$

where
r = Marginal rate of income tax
d = Number of beneficiaries
b = Dollar amount of benefit
p = Percentage
i = Income category
0 = Other benefits accruing from scholarships or veterans' benefits

Figures b_1, b_2, and p are specified in the tax deduction proposals. The income categories (i) used in the calculations are displayed in Table A-1, and the number of beneficiaries (d) are shown in Table A-2.

In sum, these tax deduction models determine both the costs (the amount of income foregone by the federal government) and the benefits derived by taxpayers (arrayed by income category). However, because the calculations were so complex, the staff did not analyze tax deduction proposals further. (Table A-3 reveals the variations and complexity of current tax deduction bills.)

Table A-1: Marginal Rates of Income Tax

Income Categories (In '000 of $)	Marginal Rates (%)
0-3	14.2
3-5	16.6
5-7	17.5
7-10	19.2
10-15	20.8
15-20	23.7
20-50	31.6
50-100	51.1
100+	59.2

SOURCE: U.S. Department of Treasury, telephone interview with T. Reeves, June 26, 1973, by Sherry Manning of the NCFPE staff.

Table A-2: Number of Beneficiaries Per Family, by Income Category, 1972

Income Categories (In '000 of $)	Marginal Rates (%)
0-3	2.20
3-5	2.32
5-7	2.27
7-10	2.25
10-15	2.24
15-20	2.17
20-50	2.18
50-100	2.21
100+	2.21

SOURCE: U.S. Department of Commerce, Bureau of the Census, Consumer Income, Series P-60, No. 85 (December 1972), Table I, p. 23.

Table A-3: Current Tax Deduction Proposals

1. The benefit shall not exceed the lesser of (a) the product of $500 times the number of qualified beneficiaries; (b) 10 percent of the taxpayers' adjusted gross income for the taxable year; or (c) $2,500: *H.R.5, H.R.866, H.R.2869*

2. All tuition and transportation: *H.R.202*

3. Up to $400 per year: *H.R.54*

4. $200 multiplied by the number of months enrolled and in attendance in a postsecondary educational institution (undergraduate): *H.R.2178*

5. Up to a maximum of $1,000: *H.R.434, H.R.1614, H.R.7428*

6. Up to a maximum of $1,500: *H.R.3229, H.R.11596*

7. Up to a maximum of $400 for all expenses, including food and lodging: *H.R.865*

8. No upper limit on benefits to be received with certain limitations on income group eligible: *H.R.814*

9. All expenses in excess of exemption allowed: *H.R.400*

10. All expenses of special training or education for mentally retarded or physically handicapped (under 21 years of age): *H.R.3301*

APPENDIX B

ENROLLMENT PROJECTIONS

This Appendix develops the enrollment and cost projections found in Tables 3 and 4. First, as Table B-1 presents, enrollments in postsecondary education had to be projected by institutional type and level of student for Fiscal 1977 and 1980. This data is based on estimates by the National Commission staff after apportioning 1973 projections by the National Center of Educational Statistics. Next, as Table B-2 shows, enrollments were distributed to income categories and institutional types by utilizing the Bureau of the Census' October 1972 *Current Population Survey* data. Notice that of the seven income categories, the greatest density of students--for all types and levels of institutions--occurred in the $10,000 to $25,000 income range.

The 1972 Bureau of the Census distribution of enrollments by income category and institutional type was assumed to remain relatively constant through 1980. The apportioned enrollments for 1977 and 1980 are presented in Tables B-3 and B-4.

Next, it was necessary to project the average expenses (tuition and fees) by institutional type. These estimates, obtained from the National Commission on the Financing of Postsecondary Education, are shown in Table B-5. These costs were then matched with the enrollments by institutional type (data from Tables B-3 and B-4) to obtain the necessary figures for calculating enrollments by expense category and by family income category. Tables B-6 and B-7 array the results.

Table B-1: Projected Enrollment by Sector, 1971-72 to 1984-85

Year	Public 2-year	Public Four-Year			Private 2-year	Private Four-Year			Non-collegiate
		Lower Div	Upper Div	Grad & PG		Lower Div	Upper Div	Grad&PG	
1971-72	1,568,810	1,785,814	1,485,358	949,672	109,617	826,039	629,934	513,560	1,568,627
1972-73	1,607,318	1,733,834	1,556,497	1,045,179	103,277	807,292	633,671	536,805	1,600,000
1973-74	1,763,000	1,797,200	1,612,990	1,082,810	95,000	823,750	646,080	549,170	1,632,000
1974-75	1,836,000	1,810,000	1,624,475	1,090,525	92,000	831,500	652,160	554,340	1,662,000
1975-76	1,913,000	1,832,400	1,644,580	1,104,020	94,000	839,255	658,240	559,505	1,698,000
1976-77	1,990,000	1,856,850	1,666,480	1,118,720	97,000	849,455	666,240	566,305	1,732,000
1977-78	2,056,000	1,880,800	1,688,020	1,133,180	98,000	860,470	674,880	573,650	1,767,000
1978-79	2,108,000	1,893,600	1,699,510	1,114,890	99,000	868,225	680,960	578,815	1,802,000
1979-80	2,138,000	1,894,000	1,699,865	1,114,135	100,000	867,410	680,570	578,270	1,838,000
1980-81	2,155,000	1,890,400	1,696,635	1,138,965	100,000	863,330	677,170	575,550	1,875,000
1981-82	2,162,000	1,874,000	1,681,915	1,129,085	97,000	858,840	673,600	572,560	1,912,000
1982-83	2,146,000	1,845,200	1,656,065	1,111,735	97,000	844,970	662,720	563,310	1,950,000
1983-84	2,106,000	1,807,200	1,621,960	1,088,840	95,000	822,935	645,440	548,625	1,990,000
1984-85	2,052,000	1,760,000	1,579,600	1,060,400	93,000	792,740	621,760	528,500	2,029,000

SOURCE: Financing Postsecondary Education in the United States, Table 7-1, p. 253.
NCES, apportioned to sector by NCFPE staff estimates.

Note: Headcount enrollment.

Table B-2: Distribution of Enrollments, by Institutional Type and Family Income Category, 1972

Institutional Type / Family Category	4-year Public			4-year Private			2-year Public	2-year Private	Noncollegiate
	All	Undergrad	Grad	All	Undergrad	Grad			
< $3,000	.036	.041	.016	.033	.038	.020	.038	.053	.020
$3,000-6,000	.112	.131	.082	.086	.090	.068	.115	.039	.105
$6,000-7,500	.061	.064	.049	.051	.054	.037	.073	.092	.070
$7,500-10,000	.139	.141	.131	.108	.105	.118	.120	.132	.084
$10,000-15,000	.285	.272	.335	.285	.275	.321	.290	.342	.320
$15,000-25,000	.253	.240	.297	.263	.262	.267	.190	.197	.297
> $25,000	.105	.111	.079	.175	.176	.169	.100	.145	.105
Total	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

SOURCE: U.S. Bureau of the Census, Current Population Survey, 1972, special tabulations.

Table B-3: Projected Enrollment in Postsecondary Education, by Income Level and Institutional Type, Fiscal 1977

Income Level	Public 4-Year			Private 4-Year			Public 2-Year	Private 4-Year	Noncoll	*Total*
	Undergrad	Grad	All	Undergrad	Grad	All				
< $3,000	144,456	17,900	162,356	57,596	11,326	68,922	75,620	5,141	34,640	*346,679*
$3,000-6,000	461,556	91,735	553,291	136,412	38,509	174,921	228,850	3,783	181,860	*1,142,705*
$6,000-7,500	225,493	54,817	880,310	81,847	20,953	102,800	145,270	8,924	121,240	*658,544*
$7,500-10,000	496,790	146,552	643,342	159,147	66,824	225,971	238,800	12,804	145,488	*1,266,544*
$10,000-15,000	958,346	374,771	1,333,117	416,816	181,784	598,600	577,100	33,174	554,240	*3,096,231*
$15,000-25,000	845,599	332,260	1,177,359	397,112	151,203	548,315	378,100	19,109	514,404	*2,637,787*
> $25,000	391,090	88,379	479,469	266,762	95,706	362,468	199,000	14,065	181,860	*1,236,862*
Total	*3,523,330*	*1,118,720*	*4,642,050*	*1,515,695*	*566.305*	*2,082,000*	*1,990,000*	*97,000*	*1,732,000*	*10,385,213*

SOURCE: NCFPE staff calculations.

Table B-4: Projected Enrollment in Postsecondary Education by Income Level and Institutional Type, Fiscal 1980

Income Level	Public 4-Year			Private 4-Year			Public 2-Year	Private 4-Year	Noncoll	*Total*
	Undergrad	Grad	All	Undergrad	Grad	All				
< $3,000	218,360	17,826	236,186	58,823	11,565	70,388	81,244	5,300	36,760	*429,878*
$3,000-6,000	470,796	91,759	562,155	139,318	39,322	178,640	245,870	3,900	192,990	*1,183,555*
$6,000-7,500	230,007	54,593	284,600	83,591	21,396	104,987	156,074	9,200	128,660	*683,521*
$7,500-10,000	506,735	14,595	521,330	162,538	68,236	230,774	256,650	13,200	154,392	*1,176,346*
$10,000-15,000	977,531	37,324	1,014,855	425,695	185,625	611,320	620,020	34,200	588,160	*2,860,550*
$15,000-25,000	862,528	330,898	1,193,426	405,571	154,398	559,969	406,220	19,700	545,886	*2,725,201*
> $25,000	398,919	88,017	486,936	272,445	97,728	370,173	213,800	14,500	192,990	*1,278,399*
Total	*3,593,865*	*1,114,135*	*4,708,000*	*1,547,980*	*578,270*	*2,126,250*	*2,138,000*	*100,000*	*1,838,000*	*10,910,450*

SOURCE: NCFPE staff calculations.

Table B-5: Projected Annual Tuition Charges by Institutional Type, 1977 and 1980

Institutional Type	1977	1980
Community College (Pub. 2-Yr.)..	$192	$228
Public 4-Yr. Lower Division.....	583	691
Public 4-Yr. Upper Division.....	583	691
Public 4-Yr. Graduate...........	583	691
Private Undergraduate...........	2,039	2,415
Private Graduate................	2,039	2,415
Noncollegiate...................	1,326	1,570

SOURCE: *Financing Postsecondary Education in the United States*, Table 7-2, p. 254. HEGIS, Financial Statistics of Institutions of Higher Education (1971-72).

Note: HEGIS finance date for 1971-72 inflated by 5.8% per year.

Table B-6: Projected Enrollments by Income Category and Expense Category, Fiscal 1977

Income Category	$0-500	$500-1,000	$1,000-1,500	> $1,500	*Total*
< $3,000	75,620	162,356	34,640	74,076	*346,679*
$3,000-6,000	228,850	553,291	181,860	178,704	*1,142,705*
$6,000-7,500	145,270	280,310	121,240	111,724	*658,544*
$7,500-10,000	238,800	643,342	145,488	238,775	*1,266,405*
$10,000-15,000	577,100	1,333,117	554,240	631,774	*3,096,231*
$15,000-25,000	378,100	1,177,859	514,404	567,424	*2,637,787*
> $25,000	199,000	479,469	181,860	376,533	*1,236,862*
Total	*1,990,000*	*4,642,050*	*1,732,000*	*2,179,000*	*10,385,213*
Average Expenses	*$192*	*$583*	*$1,326*	*$2,039*	

SOURCE: NCFPE staff calculations.

Table B-7: Projected Enrollments by Income Category and Expense Category, Fiscal 1980

Income Category	$0-500	$500-1,000	$1,000-1,500	> $1,500	*Total*
< $3,000	81,244	236,186	36,760	75,688	*429,878*
$3,000-6,000	245,870	562,155	192,990	186,440	*1,183,555*
$6,000-7,500	156,074	284,600	128,660	114,187	*683,521*
$7,500-10,000	256,650	521,330	154,396	243,974	*1,176,346*
$10,000-15,000	620,020	1,014,855	588,160	645,520	*2,868,550*
$15,000-25,000	406,220	1,193,426	545,886	579,669	*2,725,201*
> $25,000	213,800	486,936	192,990	384,673	*1,278,399*
Total	*2,138,000*	*4,708,000*	*1,838,000*	*2,226,250*	*10,910,450*
Average Expenses	*$228*	*$691*	*$1,500*	*$2,415*	

SOURCE: NCFPE staff calculations.

APPENDIX C

Table C-1: Percentage Distribution of Enrollment, by Income Category, Institutional Type, and Control, 1972*

Institutional Type	Family Income Ranges						
	Under $3,000	$3,000-$5,000	$6,000-7,499	$7,500-9,999	$10,000-14,000	$15,000-24,999	$25,000 and over
Collegiate Institutions:							
Research and Doctorate Granting Universities							
Public	11.8%	19.7%	12.7%	17.1%	17.8%	21.8%	24.5%
Private	7.9	3.6	4.3	4.5	5.9	6.5	13.3
Comprehensive Colleges							
Public	31.5	28.1	29.7	31.7	25.1	25.0	18.0
Private	4.3	4.9	4.8	6.4	6.0	6.9	6.1
Liberal Arts Colleges							
Public	0.8	0.2	0.2	0.1	0.5	0.0	0.5
Private	6.7	8.1	7.0	6.2	7.7	9.0	13.2
Two-Year Colleges							
Public	27.9	27.9	31.1	26.2	27.0	21.0	15.6
Private	1.6	0.4	1.6	1.1	1.3	1.0	1.6
Other Institutions							
Public	2.4	5.3	5.9	4.8	6.3	6.9	4.9
Private	5.1	1.8	2.7	2.4	2.3	1.9	2.3
All Collegiate Institutions							
Public	74.4%	81.2%	79.6%	79.4%	76.7%	74.7%	63.5%
Private	25.6	18.8	20.4	20.6	23.3	25.3	36.5
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Noncollegiate Institutions							
Public	**69.5%**	**59.2%**	**62.7%**	**54.4%**	**51.4%**	**49.3%**	**46.2%**
Private	**30.5**	**40.8**	**37.3**	**45.6**	**49.6**	**51.7**	**53.8**
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

SOURCE: Financing Postsecondary Education in the United States, Table 4-3a, p. 141.

***Excludes those not reporting income.**

APPENDIX D

A FORTRAN LISTING OF THE NCPPE STAFF MODEL FOR ANALYZING TAX CREDIT PROPOSALS

```
      REAL LAM
      INTEGER A
      DIMENSION COST(11,7),ENROLL(11,7),AVE1(11,7),COL(5,7),
     *CCOST(5,7),ECOL(5,7),COST1(7),AV1(7),ENROL2(7),
     *EXP1(11,7),AEXP(7),EXP2(7),EEXP(11,7)
      DO 500 L=1,7
      COST1(L)=0.0
      EXP2(L)=0.0
      ENROL2(L)=0.0
  500 CONTINUE
      COST2=0.0
      EXP5=0.0
      EN=0.0
      WRITE(8,300)
  300 FORMAT(1X,'INPUT TYPE OF TAX CREDIT MODEL')
      READ(3,400) A
  400 FORMAT(I1)
      WRITE(8,310)
  310 FORMAT(1X,'INPUT LAMBDA')
      READ(3,410) LAM
  410 FORMAT(F4.2)
      WRITE(8,320)
  320 FORMAT(1X,'INPUT INCOME CUTOFF')
      READ(3,420) LEV
  420 FORMAT(I5)
      WRITE(8,330)
  330 FORMAT(1X,'INPUT EXPENSE COEFFICIENTS')
      READ(3,430) A1,A2,A3
  430 FORMAT(F4.2,1X,F4.2,1X,F4.2)
      WRITE(8,340)
  340 FORMAT(1X,'INPUT EXPENSE LIMITS AND CUTOFF FACTOR')
      READ(3,440) B1,B2,B3,C1
  440 FORMAT(F5.0,1X,F5.0,1X,F5.0,1X,F4.2)
      DO 95 L6=1,77
   40 READ(5,20) ICAT,INC,ENROL,EXP,INLEV
   20 FORMAT(1X,I2,2X,I1,1X,F8.0,2X,F5.0,2X,I5)
      BEN=0.0
      ENROLL(ICAT,INC)=ENROL*LAM
      EXP1(ICAT,INC)=EXP
      EEXP(ICAT,INC)=EXP1(ICAT,INC)*ENROLL(ICAT,INC)
      GOTO (200,201),A
  200 EN=EN+ENROL*LAM
      IF (INLEV-LEV) 521,521,520
  520 ADJ=(FLOAT(INLEV)-FLOAT(LEV))*C1
      GOTO 70
  521 ADJ=0.0
   70 IF (EXP.LE.B1) GOTO 71
      IF (EXP.GT.B1.AND.EXP.LE.B2) GOTO 75
      IF (EXP.GT.B2.AND.EXP.LE.B3) GOTO 80
      IF (EXP.GT.B3) GOTO 85
   71 BEN=A1*EXP
      GOTO 312
   75 BEN=A1*B1+A2*(EXP-B1)
      GOTO 312
   80 BEN=A1*B1+A2*(B2-B1)+A3*(EXP-B3)
      GOTO 312
   85 BEN=A1*B1+A2*(B2-B1)+A3*(B3-B2)
```

```
312    BENE=BEN-ADJ                                                     00000250
313    COST(ICAT,INC)=LAM*ENROL*BENE                                    00000255
       GOTO 95                                                          00000260
201    IF (INLEV.GT.LEV) GOTO 710                                       00000265
       EN=EN+ENROL*LAM                                                  00000270
       IF (EXP.GT.1500.) GOTO 720                                       00000275
       BEN=EXP                                                          00000280
       GOTO 730                                                         00000285
720    BEN=1500.                                                        00000290
       GOTO 730                                                         00000295
710    BEN=0.0                                                          00000300
730    COST(ICAT,INC)=LAM*ENROL*BEN                                     00000305
       GOTO 95                                                          00000310
95     CONTINUE                                                         00000315
       WRITE(8,110)                                                     00000400
110    FORMAT(////,47X,'TABLE 1',/,21X,'ABSOLUTE TAX CREDIT BYINCOME CLAS00000410
      *S AND INSTITUTION TYPE',//,1X,'INSTITUTION ','I',21X,'FAMILY INCOM00000420
      *E DISTRIBUTION',/,5X,'TYPE',4X,'I',/,19X,'$3000',6X,'$3-6000',5X,'00000430
      *$6-7500',3X,'$7.5-10000',4X,'$10-15000',4X,'$15-25000',6X,'>$2500000000440
      *')                                                               00000450
        DO 611 I=1,11                                                   00000455
        WRITE(8,111) I,COST(I,1),COST(I,2),COST(I,3),COST(I,4),         00000460
      *COST(I,5),COST(I,6),COST(I,7)                                    00000470
111    FORMAT(6X,I2,5X,7(2X,F10.0))                                     00000480
611     CONTINUE                                                        00000485
       DO 100 I2=1,11                                                   00000490
       DO 100 J2=1,7                                                    00000500
       AVE1(I2,J2)=COST(I2,J2)/ENROLL(I2,J2)                            00000510
100    CONTINUE                                                         00000520
       WRITE(8,115)                                                     00000530
115    FORMAT(////,47X,'TABLE 2',/,21X,'AVERAGE TAX CREDITS BY INCOME CLA00000540
      *SS AND INSTITUTION TYPE',//,1X,'INSTITUTION','I',21X,'FAMILY INCOM00000550
      *E DISTRIBUTION',/,5X,'TYPE',4X,'I',/,19X,'$3000',6X,'$3-6000',5X,'00000560
      *$6-7500',3X,'$7.5-10000',4X,'$10-15000',4X,'$15-25000',6X,'$>2500000000570
      *')                                                               00000580
       DO 612 I3=1,11                                                   00000585
       WRITE(8,120) I3,AVE1(I3,1),AVE1(I3,2),AVE1(I3,3),AVE1(I3,4),     00000590
      *AVE1(I3,5),AVE1(I3,6),AVE1(I3,7)                                 00000600
120    FORMAT(6X,I2,5X,7(2X,F10.0))                                     00000610
612    CONTINUE                                                         00000615
       DO 315 J4=1,7                                                    00000620
       COL(1,J4)=COST(9,J4)                                             00000630
       COL(2,J4)=COST(10,J4)                                            00000640
       COL(3,J4)=COST(1,J4)+COST(3,J4)+COST(5,J4)+COST(7,J4)            00000650
       COL(4,J4)=COST(2,J4)+COST(4,J4)+COST(6,J4)+COST(8,J4)            00000660
       COL(5,J4)=COST(11,J4)                                            00000670
       ECOL(1,J4)=ENROLL(9,J4)                                          00000680
       ECOL(2,J4)=ENROLL(10,J4)                                         00000690
       ECOL(3,J4)=ENROLL(1,J4)+ENROLL(3,J4)+ENROLL(5,J4)+ENROLL(7,J4)   00000700
       ECOL(4,J4)=ENROLL(2,J4)+ENROLL(4,J4)+ENROLL(6,J4)+ENROLL(8,J4)   00000710
       ECOL(5,J4)=ENROLL(11,J4)                                         00000720
315    CONTINUE                                                         00000730
       WRITE(8,210)                                                     00000740
210    FORMAT(////,47X,'TABLE 3',/,18X,'ABSOLUTE TAX CREDITS BY INCOME CL00000750
      *ASS AND FIVE INSTITUTIONAL TYPES',/,3X,'1 = PUB 2YR',/,3X,'2 = PVT00000760
      * 2YR',/,3X,'3 = PUB 4YR',/,3X,'4 = PVT 4YR',/,3X,'5 = NONCOLLEGIAT00000770
      *E',//,1X,'INSTITUTION','I',21X,'FAMILY INCOME DISTRIBUTION',/,5X,'00000780
```

```
     *TYPE',4X,/,19X,'$3000',6X,'$3-6000',4X,'$6-7500',3X,'$7.5-10000'  00000790
     *,4X,'$10-15000',4X,'$15-25000',6X,'$>25000')                      00000800
      DO 614 I5=1,5                                                     00000810
      WRITE(8,121) I5,COL(I5,1),COL(I5,2),COL(I5,3),COL(I5,4),          00000815
     *COL(I5,5),COL(I5,6),COL(I5,7)                                     00000820
121   FORMAT(6X,I2,5X,7(2X,F10.0))                                      00000830
614   CONTINUE                                                          00000835
      DO 325 I6=1,5                                                     00000840
      DO 325 J6=1,7                                                     00000850
      CCOST(I6,J6)=COL(I6,J6)/ECOL(I6,J6)                               00000860
325   CONTINUE                                                          00000870
      WRITE(8,122)                                                      00000880
122   FORMAT(////,47X,'TABLE 4',/,18X,'AVERAGE TAX CREDITS BY INCOME CLA00000890
     *SS AND 5 INSTITUTION TYPES',//,18X,'INSTITUTION','I',21X,'FAMILY I00000900
     *NCOME DISTRIBUTION',/,5X,'TYPE',4X,'I',/,19X,'$3000',6X,'$3-6000',00000910
     *5X,'$6-7500',3X,'$7.5-10000',4X,'$10-15000',4X,'$15-25000',6X,'$>200000920
     *5000')                                                            00000930
      DO 670 I7=1,5                                                     00000935
      WRITE(8,123) I7,CCOST(I7,1),CCOST(I7,2),CCOST(I7,3),              00000940
     *CCOST(I7,4),CCOST(I7,5),CCOST(I7,6),CCOST(I7,7)                   00000950
123   FORMAT(6X,I2,5X,7(2X,F10.0))                                      00000960
670   CONTINUE                                                          00000965
      DO 150 J1=1,7                                                     00000970
      DO 150 I1=1,11                                                    00000980
      COST1(J1)=COST1(J1)+COST(I1,J1)                                   00000990
      ENROL2(J1)=ENROL2(J1)+ENROLL(I1,J1)                               00001000
      EXP2(J1)=EXP2(J1)+EEXP(I1,J1)                                     00001005
      AEXP(J1)=EXP2(J1)/ENROL2(J1)                                      00001007
      AV1(J1)=COST1(J1)/ENROL2(J1)                                      00001010
150   CONTINUE                                                          00001020
      WRITE(8,160)                                                      00001030
160   FORMAT(////,47X,'TABLE 5',/,11X,'TAX CREDIT BY INCOME CLASS',//,4X00001040
     *,'INCOME',5X,'TAX CREDIT',4X,'ENROLLMENT',4X,'AVERAGE TAX',       00001050
     *4X,'AVERAGE',/,5X,'LEVEL',36X,'CREDIT',5X,'ENPENSE')              00001060
      WRITE(8,165) (I9,COST1(I9),ENROL2(I9),AV1(I9),AEXP(I9),I9=1,7)    00001070
165   FORMAT(/,7X,I1,4X,F14.0,3X,F10.0,6X,F6.0,7X,F6.0)                 00001080
      DO 600 I15=1,7                                                    00001090
      COST2=COST2+COST1(I15)                                            00001100
      EXP5=EXP5+EXP2(I15)                                               00001105
600   CONTINUE                                                          00001110
      AV2=COST2/EN                                                      00001120
      AV3=EXP5/EN                                                       00001125
      WRITE(8,170) COST2,EN,AV2,AV3                                     00001130
170   FORMAT(////,47X,'TABLE 6',//,32X,'TOTAL AND AVERAGE TAX CREDIT',//00001140
     *,8X,'TOTAL',9X,'TOTAL',11X,'AVERAGE',/,7X,'CREDIT',6X,'ENROLMENT',00001150
     *9X,'CREDIT',//,3X,F14.0,1X,F10.0,9X,F7.0,9X,F7.0)                 00001160
      STOP                                                              00001170
      END                                                               00001180
```

APPENDIX E

This Appendix is a series of tables presenting the schedule of benefits payments (the credit scales) stipulated in each of the five tax credit proposals analyzed in this paper. The tables are based on NCFPE staff calculations and array the amount of credit by adjusted gross family income and educational expense levels.

Table E-1: Availability of Tuition Credit by Amount of Qualified Expenses and Income Level (per student) for Type A1 Proposals

Qualified Expense	Adjusted Gross Income $5,000	$10,000	$15,000	$20,000	$25,000	$30,000	$35,000	$40,000	$45,000
$100	75	75	75	75	75	25	0	0	0
$200	150	150	150	150	150	100	0	0	0
$300	175	175	175	175	175	125	25	0	0
$400	200	200	200	200	200	150	50	0	0
$500	225	225	225	225	225	175	75	0	0
$700	250	250	250	250	250	200	100	0	0
$1,000	275	275	275	275	275	225	125	0	0
$1,200	300	300	300	300	300	250	150	0	0
$1,500	325	325	325	325	325	275	175	25	0

Table E-2: Availability of Tuition Credit by Amount of Qualified Expenses and Income Level (per student) for Type A2 Proposals

Qualified Expense	Adjusted Gross Income $5,000	$10,000	$15,000	$20,000	$25,000	$30,000	$35,000	$40,000	$45,000
$100	100	100	100	0	0	0	0	0	0
$200	200	200	200	100	0	0	0	0	0
$300	225	225	225	125	25	0	0	0	0
$400	250	250	250	150	50	0	0	0	0
$500	275	275	275	175	75	0	0	0	0
$700	287.50	287.50	277.50	187.50	87.50	0	0	0	0
$1,000	300	300	300	200	100	0	0	0	0
$1,200	312.50	312.50	312.50	212.50	112.50	12.50	0	0	0
$1,500	325	325	325	225	125	25	0	0	0

Table E-3: Availability of Tuition Credit by Amount of Qualified Expenses and Income Level (per student) for Type B Proposals

Qualified Expense	Adjusted Gross Income								
	$5,000	$10,000	$15,000	$20,000	$25,000	$30,000	$35,000	$40,000	$45,000
$100	100	100	100	60	0	0	0	0	0
$200	200	200	200	160	60	0	0	0	0
$300	250	250	250	210	110	10	0	0	0
$400	300	300	300	260	160	60	0	0	0
$500	350	350	350	310	210	110	10	0	0

Table E-4: Availability of Tuition Credit by Amount of Qualified Expenses and Income Level (per student) for Type C Proposals

Qualified Expense	Adjusted Gross Income								
	$5,000	$10,000	$15,000	$20,000	$25,000	$30,000	$35,000	$40,000	$45,000
$100	75	75	75	75	75	75	75	75	
$200	150	150	150	150	150	150	150	150	
$300	200	200	200	200	200	200	200	200	
$400	250	250	250	250	250	250	250	250	
$500	300	300	300	300	300	300	300	300	
$700	362.50	362.50	362.50	362.50	362.50	362.50	362.50	362.50	
$1,000	425	425	425	425	425	425	425	425	
$1,200	487.50	487.50	487.50	487.50	487.50	487.50	487.50	487.50	
$1,500	550	550	550	550	550	550	550	550	

Table E-5: Availability of Tuition Credit by Amount of Qualified Expenses and Income Level (per student) for Type D Proposals

Qualified Expense	Adjusted Gross Income $5,000	$10,000	$15,000	$20,000	$25,000	$30,000	$40,000	$50,000	$60,000
$100	100	100	100	100	100	50	0	0	0
$200	200	200	200	200	200	150	50	0	0
$300	275	275	275	275	275	225	125	25	0
$400	350	350	350	350	350	300	200	100	0
$500	425	425	425	425	425	375	275	175	75
$700	487.50	487.50	487.50	487.50	487.50	437.50	337.50	237.50	137.50
$1,000	550	550	550	550	550	500	400	300	200
$1,200	612.50	612.50	612.50	612.50	612.50	562.50	462.50	362.50	262.50
$1,500	675	675	675	675	675	625	525	425	325

APPENDIX F

This Appendix arrays data used to develop tables in Section III of this paper. For FY 1977 and 1980, total benefits are presented for each type of tax credit. These benefits are displayed by the recipient's income category and educational costs. All of the tables are based on NCFPE staff calculations.

Table F-1:

Type A1: Tax Credits, by Expense Category and Income Category, Fiscal 1977

Expense Category Income Category	$0-500	$500-1,000	$1,000-1,500	>$1,500	*Total*
<$3,000	0	0	0	0	*0*
$3,000-6,000	29,658	122,499	50,325	52,271	*254,803*
$6,000-7,500	18,827	62,061	33,583	32,679	*147,150*
$7,500-10,000	30,948	142,436	40,300	69,842	*283,526*
$10,000-15,000	74,792	295,152	153,524	184,794	*708,262*
$15,000-25,000	49,011	260,778	142,490	165,972	*618,251*
>$25,000	12,895	53,077	25,124	55,068	*146,164*
Total	*214,131*	*936,003*	*441,396*	*560,626*	*2,158,156*

Table F-2:

Type A2: Tax Credits, by Expense Category and Income Category, Fiscal 1977

Income Category \ Expense Category	$0-500	$500-1,000	$1,000-1,500	>$1,500	*Total*
<$3,000	0	0	0	0	*0*
$3,000-6,000	39,545	138,931	51,721	52,271	*282,468*
$6,000-7,500	25,103	70,386	34,481	32,679	*162,649*
$7,500-10,000	41,265	161,543	41,377	69,842	*314,027*
$10,000-15,000	99,723	334,746	157,626	184,794	*776,889*
$15,000-25,000	31,307	160,071	85,371	114,903	*391.651*
>$25,000	0	3,000	2,546	9,413	*14,959*
Total	*236,943*	*868.671*	*373,121*	*463,902*	*1,942,643*

Table F-3:

Type B: Tax Credits, by Expense Category and Income Category, Fiscal 1977

Income Category \ Expense Category	$0-500	$500-1,000	$1,000-1,500	>$1,500	*Total*
<$3,000	0	0	0	0	*0*
$3,000-6,000	39,545	174,429	57,286	56,292	*327,552*
$6,000-7,500	25,103	88,298	38,191	35,193	*186,785*
$7,500-10,000	41,265	212,652	45,829	75,214	*364,960*
$10,000-15,000	79,723	419,932	174,586	199,009	*893,254*
$15,000-25,000	41,515	296,820	129,630	142,991	*610,950*
>$25,000	0	45,310	17,186	35,582	*98,078*
Total	*247,151*	*1,227,445*	*462,708*	*544,281*	*2,481,585*

Table F-4:

Type C: Tax Credits, by Expense Category and Income Category, Fiscal 1977

Expense Category Income Category	$0-500	$500-1,000	$1,000-1,500	>$1,500	*Total*
<$3,000	0	0	0	0	*0*
$3,000-6,000	29,659	159,846	82,983	88,458	*360,946*
$6,000-7,500	18,827	80,982	55,321	55,303	*210,433*
$7,500-10,000	30,948	185,862	66,386	118,194	*401,390*
$10,000-15,000	74,792	385,138	252,900	312,728	*1,025,558*
$15,000-25,000	49,011	340,283	234,722	280,875	*904,891*
>$25,000	25,790	138,519	82,983	186,384	*432,676*
Total	*229,027*	*1,290,630*	*775,295*	*961,942*	*3,336,894*

Table F-5:

Type D: Tax Credits, by Expense Category and Income Category, Fiscal 1977

Expense Category Income Category	$0-500	$500-1,000	$1,000-1,500	>$1,500	*Total*
<$3,000	0	0	0	0	*0*
$3,000-6,000	39,545	221,871	103,115	108,473	*473,003*
$6,000-7,500	25,103	112,404	68,743	67,816	*274,066*
$7,500-10,000	41,265	257,972	82,492	144,936	*526,665*
$10,000-15,000	99,723	534,580	314,254	383,486	*1,332,043*
$15,000-25,000	65,336	472,321	291,667	344,426	*1,173,751*
>$25,000	24,477	63,833	94,022	209,729	*392,061*
Total	*295,449*	*1,662,980*	*954,293*	*1,258,866*	*4,171,588*

Table F-6:

Type A1: Tax Credits, by Expense Category and Income Category, Fiscal 1980

Income Category \ Expense Category	$0-500	$500-1,000	$1,000-1,500	>$1,500	*Total*
<$3,000	0	0	0	0	*0*
$3,000-6,000	34,741	123,449	56,450	54,534	*269,174*
$6,000-7,500	22,053	62,498	37,633	33,399	*155,583*
$7,500-10,000	36,264	143,330	45,160	71,362	*296,116*
$10,000-15,000	87,609	297,507	172,137	188,815	*745,968*
$15,000-25,000	57,399	262,076	159,672	169,513	*648,700*
>$25,000	15,105	53,466	28,225	56,258	*153,054*
Total	*253,169*	*942,326*	*497,177*	*573,921*	*2,268,595*

Table F-7:

Type A2: Tax Credits, by Expense Category and Income Category, Fiscal 1980

Income Category \ Expense Category	$0-500	$500-1,000	$1,000-1,500	>$1,500	*Total*
<$3,000	0	0	0	0	*0*
$3,000-6,000	45,363	144,193	56,450	54,534	*300,540*
$6,000-7,500	28,796	72,999	37,633	33,400	*172,828*
$7,500-10,000	47,352	167,414	45,160	71,362	*331,288*
$10,000-15,000	114,394	347,497	172,037	188,815	*792,743*
$15,000-25,000	36,561	219,446	110,542	117,383	*473,931*
>$25,000	0	0	10,856	21,638	*32,494*
Total	*272,465*	*911,549*	*432,678*	*487,132*	*2,103,824*

Table F-8:

Type B: Tax Credits, by Expense Category and Income Category, Fiscal 1980

Expense Category / Income Category	$0-500	$500-1,000	$1,000-1,500	>$1,500	*Total*
<$3,000	0	0	0	0	*0*
$3,000-6,000	47,355	177,179	61,792	58,729	*343,955*
$6,000-7,500	30,060	89,649	40,528	35,969	*196,206*
$7,500-10,000	49,431	215,596	48,633	76,852	*381,512*
$10,000-15,000	119,416	426,751	185,271	213,339	*934,776*
$15,000-25,000	52,646	300,743	137,563	146,077	*637,029*
>$25,000	8,466	46,015	18,238	36,352	*109,071*
Total	*307,374*	*1,245,833*	*491,024*	*557,318*	*2,601,549*

Table F-9:

Type C: Tax Credits, by Expense Category and Income Category, Fiscal 1980

Expense Category / Income Category	$0-500	$500-1,000	$1,000-1,500	>$1,500	*Total*
<$3,000	0	0	0	0	*0*
$3,000-6,000	36,290	176,067	95,530	92,288	*400,175*
$6,000-7,500	23,036	89,137	63,686	56,523	*232,282*
$7,500-10,000	37,882	214,421	76,424	120,767	*439,494*
$10,000-15,000	91,515	424,313	291,139	319,532	*1,126,499*
$15,000-25,000	59,958	373,781	271,214	286,936	*991,889*
>$25,000	31,557	152,508	95,530	190,413	*471,118*
Total	*280,238*	*1,420,227*	*892,523*	*1,066,459*	*3,659,447*

Table F-10:

Type D: Tax Credits, by Expense Category and Income Category, Fiscal 1980

Expense Category Income Category	$0-500	$500-1,000	$1,000-1,500	>$1,500	*Total*
<$3,000	0	0	0	0	*0*
$3,000-6,000	48,903	239,309	117,241	113,262	*518,715*
$6,000-7,500	31,043	121,154	78,160	69,369	*299,726*
$7,500-10,000	51,048	277,848	93,793	148,214	*571,913*
$10,000-15,000	123,322	576,588	357,317	392,153	*1,449,370*
$15,000-25,000	80,675	518,141	331,626	352,149	*1,272,491*
>$25,000	74,515	182,942	117,592	214,455	*539,514*
Total	*409,506*	*1,905,882*	*1,085,719*	*1,289,602*	*4,651,719*

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